

# Healthy California 2000 Final Review



**California's Experience in Achieving  
the National Health Promotion and Disease  
Prevention Objectives**

# HEALTHY CALIFORNIA 2000

## FINAL REVIEW

### California's Experience in Achieving the National Health Promotion and Disease Prevention Objectives

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TO: ALL INTERESTED PARTIES

SUBJECT: HEALTHY CALIFORNIA 2000 FINAL REVIEW

It is my pleasure to present to you the latest in a series of publications from the Department of Health Services that report on California's progress in achieving disease prevention and health promotion objectives established by the Federal Government in Healthy People 2000. This national initiative addresses over 500 objectives in 22 priority areas and builds on efforts at the national, state, and local levels to increase the healthy span of life, reduce health disparities, and achieve access to preventive services for all Americans.

Our mission is to protect and improve the health of all Californians. As a leader in public health, the role of the Department of Health Services is to set priorities that balance expanding needs against available resources and to develop innovative approaches through public/private partnerships that meet the health needs of the State's growing and diverse population.

Experience has taught us that we cannot afford to ignore the value of disease prevention and health promotion activities, nor the importance of lifestyle and environmental factors as determinants of health status and costs.

I invite you to read the information contained in this report, and to respond to the challenges of creating a healthier California as we approach the 21<sup>st</sup> century.

Sincerely,

Sandra Shewry  
Director

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## Preface

The *Healthy California 2000* reporting series provides information on California's progress toward meeting the National Healthy People 2000 objectives for selected health status indicators. This report is the last in this series. It presents a condensed view of the previous report, *Healthy California 2000 Midcourse Review* released in June 1999, with a quick reference executive summary of the State's progress in an abbreviated format (page 2). This report includes vital statistics death data for 1997 and 1998, vital statistics birth data for 1997 through 1999, some health survey data for 1997 through 1999, and morbidity data through 2000.

Closure of this series is deemed necessary due to major developments that affect future statistical analyses of data including:

1. Data comparisons will be made with the targets set for the newly established *Healthy People 2010 Objectives* published by the National Center for Health Statistics to be implemented with 1999 data. These targets replace those established for the *Healthy People 2000 Objectives*.
2. Mortality data are now collected using cause of death codes from the *International Classification of Diseases, 10th Revision* (ICD-10) implemented in 1999. Codes from the *International Classification of Diseases, 9th Revision* (ICD-9), are used in prior years.
3. Age-adjusted death rates will be calculated using the weighted averages from the 2000 Standard Population commencing with 1999 data. Age adjustments for prior years use the 1940 Standard Population and data are not comparable from the two periods.

Because of these procedural changes, data comparisons to prior years may not be reliable and will not be made in future reports.

In general, data analyses for the additional years now available for this report did not show trend or projection reversals in the overall health status of Californians. Progress toward meeting the Healthy People 2000 objectives did not change for most health indicators. For the few indicators that did change, highlights of the rates/trends in textual analyses are given with charts illustrating the changed trend line for the rates.

For more information on the National Healthy People Initiative, consult the following websites:

<http://web.health.gov/healthypeople>

<http://www.cdc.gov/nchs/hphome.htm>

The federal Healthy People program has also published a *Healthy People 2000 Final Review* available on the Healthy People website (<http://web.health.gov/healthypeople>) or from the Department of Health and Human Services. According to this final review, the Nation achieved 21 percent of the measurable year 2000 objectives. Along with an extensive review of national progress on all but the developmental objectives, and a Healthy People 2010 transition discussion, is a section of selected sentinel\* objectives with 1997 and 1998, or 1998 and 1999 data by state. The federal Healthy People Final Review reports progress on the 27 selected or sentinel objectives by state, including California; 21 of those objectives are also included in this Healthy California report and 6 of those objectives are not included in this report. The 27 selected objectives by state monitored in the federal report represent only a small proportion of the total objectives proposed in the Healthy People Initiative. According to the federal report, California achieved two out of the six objectives not covered in the California report (percent of persons wearing seatbelts while riding in or driving a motor-vehicle and percent of women aged 50 and older who received a mammogram and breast exam within the last two years).

The general public health and safety model is to track a problem, indicator, or program and obtain reliable data to establish a baseline from which to set future intervention strategies and goals for improvement. The Healthy People Initiative is designed to help health officials on all levels, as well as grassroots community activists, assess, monitor, and evaluate innovative approaches to improving the lives of those affected. The emphasis is on prevention whenever possible and building broad-based interdisciplinary coalitions to address increasingly complex medical, social, economic, and political dynamics in improving the length and quality of everyone's life regardless of income or race/ethnic background.

### **Transition to 2010 Objectives**

The change to ICD-10 codes for cause of death definitions and the use of the year 2000 standard million U.S. population for 2010 objectives made the baseline year for 2010 objectives 1999 rather than 2001 as initially planned. As a result of these two major changes to Healthy People methodology, comparison of Healthy People 2000 trends and Healthy People 2010 trends is not possible. Healthy People 2010 objectives are currently used in several Center for Health Statistics reports (County Health Status Profiles and Data Summaries) as well as other publications produced by the Department of Health Services, other state agencies, and various private organizations. Another major change in the 2010 methodology is the lack of separate and higher targets for special population groups included in the Healthy People 2000 methodology. For 2010 special population subobjectives, one measure is set for all groups regardless of race/ethnicity, income, age bracket or gender. The large diverse population of California will be challenged to meet many of the Healthy People 2010 indicator targets containing special population subobjectives.

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\*Sentinel objectives are a small number of the total indicators considered to represent progress towards meeting the Healthy People Goals overall.



The evolving Healthy People program with stated objectives for an increasing number of health, safety and quality of life indicators is becoming progressively more important and the main program by which the Nation, states, counties, or local communities can create, disseminate, and compare standardized data, and gauge progress towards meeting the two main Healthy People goals: 1) the elimination of health disparities, and 2) increasing the quality and years of healthy life in the decades ahead. As of this writing, the production plan for the future Healthy California 2010 report and identification of 2010 objectives that will be measured in that report are currently being developed.

The Healthy People website offers a wide range of tools, data and upcoming events. Resources available on the website include Healthy People background and overview to detailed program documentation provided in a variety of formats. Also available is a *Healthy People 2010 Toolkit* designed to guide community organizations through a process of Healthy People involvement, establishing objectives, tracking data, program management, and a list of resources.

## Acknowledgements

The Health Information and Strategic Planning Division, under the direction of George B. (Peter) Abbott, M.D., M.P.H., Acting Deputy Director, and the Center for Health Statistics, under the direction of Michael L. Rodrian, Chief, had the overall responsibility for developing *Healthy California 2000 Final Review*.

The author extends his appreciation to Karen Flannigan, Chief, Planning and Data Analysis Section, for her review and guidance in preparing and presenting this report. This publication is an extensive update of the earlier *Healthy California 2000 July 1995* report, authored by Jim Sutocky and as such, much of the basic format, data, and some text is attributable to him.

## OBJECTIVE STATUS SUMMARY

The *Healthy California 2000 Final Review* measures 149 of the national health objectives and subobjectives established by the U.S. Public Health Service. Of the 149, 45 objectives in 17 priority areas are related to the general population, and 103 subobjectives are related to specific targeted subpopulation groups by gender, age, race/ethnicity, or a combination of the three. The national health objectives and subobjectives not included in this report are not measured due to incomplete or unavailable data. Since less than half of the total number of proposed objectives are included in this report, any characterization of progress in California should be qualified in proportion to the number of objectives actually tracked.

The *Healthy California 2000 Final Review* shows California is making progress toward achieving many of the national objectives, and for some objectives the State virtually, if not technically, met the established targets. Partnerships among all levels of government and the private sector continue to make positive differences in the health of Californians as a result of having a highly visible and well supported set of health and social goals established.

California achieved 25 of 46 general objectives included in this report out of 312 general objectives proposed for these priority health areas by the national Healthy People Initiative. California also met 57 of 103 subobjectives included in this report out of 381 proposed. The total number of objectives proposed includes some duplicate objectives that are used in more than one priority area. California achieved 26 out of 64 subobjectives specifically targeting various race/ethnic populations, providing information on progress toward the goal of eliminating race/ethnic health disparities. Many challenges remain in preventing premature deaths and in improving health among a number of subpopulation groups: people with disabilities, lower income families, and members of minority race/ethnic groups who continue to experience disproportionately worse health outcomes than other Californians. The race/ethnic labels included throughout the report are consistent with those presented in the national Healthy People program. Therefore, White refers to all individuals identified as Caucasian race (non Hispanic); Black refers to individuals identified as persons of African or African American race descent; Asian/Other includes American Indian, Asian Indian, Asian (specified/unspecified), Cambodian, Chinese, Filipino, Guamanian, Hawaiian, Japanese, Korean, Laotian, Other Pacific Islander, Samoan, Thai, and Vietnamese; and Hispanic refers to Latinos or any individual of any race identified as ethnically Hispanic.

The 149 national general health objectives and subobjectives measured in *Healthy California 2000 Final Review* are summarized below:

**Physical Activity and Fitness:** Progress towards five national objectives was measured by the Behavioral Risk Factor Survey (pages 16-17). California achieved two subpopulation objectives. Highlights are as follows:

**Achieved:**

**Subobjectives**

- 1) Physical activity among persons aged 65>
- 2) Physical activity among Black adults

**Not Achieved:**

**General objective**

- 3) Physical activity among all adults

**Subobjectives**

- 4) Physical activity among low-income persons
- 5) Physical activity among Hispanics

**Nutrition:** Progress towards 16 national objectives was measured by the Behavioral Risk Factor Survey, the Pediatric Nutrition Surveillance System Survey and the Newborn Screening Survey (pages 22-27). California achieved one of the general objectives monitored and four subpopulation objectives. Highlights are as follows:

**Achieved:**

**General objective**

- 1) Breastfeeding initiation percentage among total mothers

**Subobjectives**

- 2) Breastfeeding initiation percentage among Hispanic mothers
- 3) Percent of low-income children with growth retardation among Asian/PI aged two to four
- 4) Percent of low-income children with growth retardation among Hispanics < age one
- 5) Percent of low-income children with growth retardation among Hispanics age one

**Not Achieved:**

**General objective**

- 6) Percent of total adults overweight

**Subobjectives**

- 7) Percent of overweight among low-income women
- 8) Percent of overweight among Black women
- 9) Percent of overweight among Hispanic women
- 10) Percent of overweight among men with high blood pressure
- 11) Percent of overweight among women with high blood pressure
- 12) Percent of low-income children with anemia aged 1 to 2
- 13) Percent of low-income children with anemia aged 3 to 4
- 14) Percent of low-income children with growth retardation among Asian/PI age one
- 15) Percent of low-income children with growth retardation among Blacks < age one
- 16) Breastfeeding initiation percentage among Black mothers

**Tobacco:** Progress towards two national objectives was measured by the Behavioral Risk Factor Survey and death certificate data (pages 32-33). California achieved one general objective monitored. Highlights are as follows:

**Achieved:**

**General objective**

- 1) Chronic obstructive pulmonary disease deaths

**Not Achieved:**

**General objective**

- 2) Smoking percentage of adult population

**Alcohol and Other Drugs:** Progress towards nine national objectives was measured by Highway Patrol data, death certificate data, and hospital discharge data (pages 38-40). California achieved two of the general objectives monitored and one subpopulation objective. Highlights are as follows:

**Achieved:**

**General objective**

- 1) Alcohol-related motor-vehicle crash deaths
- 2) Drug-related hospital emergency room admissions

**Subobjective**

- 3) Alcohol-related motor-vehicle crash deaths among youths aged 15-24

**Not Achieved:**

**General objectives**

- 4) Cirrhosis deaths among total population
- 5) Drug-related deaths among total population

**Subobjectives**

- 6) Cirrhosis deaths among Hispanics
- 7) Cirrhosis deaths among Black males
- 8) Drug-related deaths among Blacks
- 9) Drug-related deaths among Hispanics

**Family Planning:** Progress towards three national objectives was measured by birth certificate data (pages 43-45). California did not achieve the objectives monitored. Highlights are as follows:

**Not Achieved:**

**General objective**

- 1) Teen Pregnancy (live birth surrogate) among total population

**Subobjectives**

- 2) Teen Pregnancy (live birth surrogate) among Blacks
- 3) Teen Pregnancy (live birth surrogate) among Hispanics

**Violent and Abusive Behavior:** Progress towards 11 national objectives was measured by death certificate data (pages 48-55). California achieved two general objectives monitored and five subpopulation objectives. Highlights are as follows:

**Achieved:**

**General objectives**

- 1) Suicide deaths among the total population
- 2) Firearm-related deaths among the total population

**Subobjectives**

- 3) Homicide deaths among Black females
- 4) Homicide deaths among children aged 3 and younger
- 5) Suicide deaths among youth aged 15-19
- 6) Suicide deaths among males aged 20-34
- 7) Firearm-related deaths among Blacks

**Not Achieved:**

**General objective**

- 8) Homicide deaths among the total population

**Subobjectives**

- 9) Homicide deaths among Black males aged 15-34
- 10) Homicide deaths among Hispanic males aged 15-34
- 11) Suicide deaths among White males aged 65 and over

**Unintentional Injuries:** Progress towards 25 national objectives was measured by death certificate data, Highway Patrol data, and hospital discharge data (pages 58-69). California achieved five general objectives monitored and 15 subpopulation objectives. Highlights are as follows:

**Achieved:**

**General objectives**

- 1) Unintentional injury deaths among the total population
- 2) Motor-vehicle crash deaths among the total population and per 100 million miles traveled
- 3) Fall-related deaths among the total population
- 4) Drowning deaths among the total population
- 5) Residential fire deaths among the total population

**Subobjectives**

- 6) Unintentional injury deaths among Black males
- 7) Unintentional injury deaths among White males
- 8) Motor-vehicle crash deaths among children aged 14 and under
- 9) Motor-vehicle crash deaths among youth aged 15-24
- 10) Motor-vehicle crash deaths among elderly aged 70 and over
- 11) Motor-vehicle crash deaths among motorcyclists
- 12) Motor-vehicle crash deaths among pedestrians
- 13) Fall-related deaths among persons aged 85 and over
- 14) Fall-related deaths among Black males aged 30-69
- 15) Drowning deaths among males aged 15-34
- 16) Drowning deaths among Black males
- 17) Residential fire deaths among children aged 4 and under
- 18) Residential fire deaths among persons aged 65 and over
- 19) Residential fire deaths among Black males
- 20) Residential fire deaths among Black females

**Not Achieved:**

**General objective**

21) Unintentional injury hospitalizations among the total population

**Subobjectives**

22) Unintentional injury hospitalizations among Black males

23) Suicide deaths among White males aged 65 and over

24) Fall-related deaths among persons aged 65-84

25) Drowning deaths among children aged 4 years and under

**Occupational Safety and Health:** Progress towards one national objective was measured by Death Certificate data (page 72). California achieved the objective monitored. Highlights are as follows:

**Achieved:**

**General objective**

1) Work-related injury deaths

**Environmental Health:** Progress towards seven national objectives was measured as tracked by Hospital Discharge data and U.S. Environmental Protection Agency (USEPA) data (pages 76-77). California achieved one general objective monitored and four subpopulation objectives. Highlights are as follows:

**Achieved:**

**General objective**

1) Asthma-related hospitalizations among the general population

**Subobjectives**

2) Asthma-related hospitalizations among Asian/Others

3) Asthma-related hospitalizations among Hispanics

4) Asthma-related hospitalizations among females

5) Asthma-related hospitalizations among children aged 14 and under

**Not Achieved:**

**General objective**

6) Percent of State's population living in counties exceeding USEPA air-pollution standards

**Subobjective**

7) Asthma-related hospitalizations among Blacks



**Oral Health:** Progress towards four national objectives was measured by death certificate data (pages 81-82). California achieved four subpopulation objectives. Highlights are as follows:

**Achieved:**

**Subobjectives**

- 1) Oral cancer deaths among males
- 2) Oral cancer deaths among females
- 3) Oral cancer deaths among Black males
- 4) Oral cancer deaths among Black females

**Maternal and Infant Health:** Progress towards 22 national objectives was measured by birth certificate data (pages 86-99). California achieved one of the general objectives monitored and three subpopulation objectives. Highlights are as follows:

**Achieved:**

**General objective**

- 1) Infant mortality among total population

**Subobjectives**

- 2) Infant mortality among Native Americans
- 3) Neonatal mortality among total population
- 4) Post-neonatal mortality among total population

**Not Achieved:**

**General objectives**

- 5) Fetal deaths among total population
- 6) Maternal mortality among total population
- 7) Low birth weight among total population
- 8) Very low birth weight among total population
- 9) Cesarean sections among total population
- 10) Early prenatal care among total population

**Subobjectives**

- 11) Infant mortality among Blacks
- 12) Neonatal mortality among Blacks
- 13) Post-neonatal mortality among Blacks
- 14) Fetal deaths among Blacks
- 15) Maternal mortality among Blacks
- 16) Low birth weight among Blacks
- 17) Very low birth weight among Blacks
- 18) Primary cesarean sections among total population

- 19) Repeat cesarean sections among total population
- 20) Early prenatal care among Blacks
- 21) Early prenatal care among Hispanics
- 22) Early prenatal care among Native Americans

**Heart Disease and Stroke:** Progress towards four national objectives was measured by death certificate data (pages 105-106). California achieved one general objective monitored and no subpopulation objectives. Highlights are as follows:

**Achieved:**

**General objective**

- 1) Coronary heart disease deaths among the general population

**Not Achieved:**

**General objective**

- 2) Stroke deaths among total population

**Subobjectives**

- 3) Coronary heart disease deaths among Blacks
- 4) Stroke deaths among Blacks

**Cancer:** Progress towards 12 national objectives was measured by death certificate data (pages 112-116). California achieved four general objectives monitored and five subpopulation objectives. Highlights are as follows:

**Achieved:**

**General objectives**

- 1) Cancer deaths among total population
- 2) Lung cancer deaths among total population
- 3) Female breast cancer deaths among total population
- 4) Colorectal cancer deaths among total population

**Subobjectives**

- 5) Cancer deaths among Blacks
- 6) Lung cancer deaths among Black males
- 7) Lung cancer deaths among all females
- 8) Female breast cancer deaths among Black females
- 9) Colorectal cancer deaths among Blacks

**Not Achieved:**

**General objective**

10) Cervical cancer deaths among total population

**Subobjectives**

11) Cervical cancer deaths among Blacks

12) Cervical cancer deaths among Hispanics

**Diabetes:** Progress towards two national objectives was measured by death certificate data (pages 120-121). California achieved no general or subpopulation objectives. Highlights are as follows:

**Not Achieved:**

**General objective**

1) Diabetes-related deaths among total population

**Subobjective**

2) Diabetes-related deaths among Blacks

**HIV:** Progress towards seven national objectives was measured by Office of AIDS case data (pages 125-126). California achieved one general objective monitored and six subpopulation objectives. Highlights are as follows:

**Achieved:**

**General objective**

1) Diagnosed AIDS cases among total population

**Subobjectives**

2) Diagnosed AIDS cases among Blacks

3) Diagnosed AIDS cases among Hispanics

4) Diagnosed AIDS cases among men having sex with men

5) Diagnosed AIDS cases among females

6) Diagnosed AIDS cases among injecting drug abusers

7) Prevalence of HIV among women of childbearing age

**Sexually Transmitted Disease:** Progress towards 13 national objectives was measured by Division of Communicable Disease Control case data (pages 131-135). California achieved four general objectives monitored and six subpopulation objectives. Highlights are as follows:

**Achieved:**

**General objectives**

- 1) Incidence of gonorrhea
- 2) Incidence of primary and secondary syphilis
- 3) Incidence of congenital syphilis
- 4) Pelvic inflammatory disease hospitalizations among women aged 15-44

**Subobjectives**

- 5) Incidence of gonorrhea among Blacks
- 6) Incidence of gonorrhea among youth aged 15-19
- 7) Incidence of gonorrhea among women aged 15-44
- 8) Incidence of primary and secondary syphilis among Blacks
- 9) Incidence of congenital syphilis among Blacks
- 10) Incidence of congenital syphilis among Hispanics
- 11) Pelvic inflammatory disease hospitalizations among Black women aged 15-44
- 12) Pelvic inflammatory disease hospitalizations among women aged 15-44

**Not Achieved:**

**General objective**

- 13) Prevalence of chlamydia among women under age 25 at initial family planning clinic visits

**Immunization and Infectious Diseases:** Progress towards six national objectives was measured by Division of Communicable Disease Control case data (pages 140-142). California achieved one general objective monitored and no subpopulation objectives. Highlights are as follows:

**Achieved:**

**General objective**

- 1) Incidence of hepatitis

**Not Achieved:**

**General objectives**

- 2) Incidence of tuberculosis
- 3) Incidence of vaccine-preventable diseases

**Subobjectives**

- 4) Incidence of tuberculosis among Blacks
- 5) Incidence of tuberculosis among Asian/Others
- 6) Incidence of tuberculosis among Hispanics

## INTRODUCTION

The U.S. Department of Health and Human Services initiated the development of a focused national health agenda with the publication of *Promoting Health/Preventing Disease: Objectives for the Nation* in 1980.<sup>1</sup> The program planning and evaluation tools presented in this document were revised and refined in the 1991 publication of *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*.<sup>2</sup> Measurable objectives for health promotion, protection, and preventive services have been presented under 21 priority areas. A special priority area (Chapter 22) was established for surveillance and data systems, reflecting the importance of monitoring in the overall approach of *Healthy People 2000*. These national health objectives have been advanced to commit the nation to attaining three main goals for all Americans:

- 1. To increase the span of healthy life;**
- 2. To reduce health disparities; and**
- 3. To achieve access to preventive services.**

The National Disease Prevention and Health Promotion Objectives present a unique opportunity for integrating health data and information systems, and for vertical and horizontal data sharing at the federal, state, and local levels. The California Department of Health Services (CDHS) began monitoring the State's progress in achieving selected national health objectives in the early 1980s, and continues to support efforts to integrate, coordinate, and disseminate health information for the new millennium.<sup>3-9</sup>

*Healthy California 2000: California's Experience in Achieving the National Health Promotion and Disease Prevention Objectives* represents an integral part of CDHS' goals and objectives, and provides a framework for strategic planning to enhance the health of all Californians. This report presents an assessment of the health status of Californians on over 149 unduplicated objectives in 17 national health priority areas, and reflects the current capabilities of statewide health data systems to monitor progress in achieving national objectives.

*Healthy California 2000 Final Review* is divided into three major parts: health promotion objectives; health protection objectives; and preventive services objectives. Each chapter contains background information on a specific priority area, a description of the objectives and subobjectives being monitored and their respective data sources, tables and figures showing trends in California over several years, and a brief summary of findings. When statistically significant trends were found, projections to the year 2000 are shown as an indicator of progress in achieving the objectives. A final section contains technical notes on relevant data issues, appendix tables detailing the identifying codes used to extract morbidity and mortality data, summaries of California's progress in achieving selected National Health Objectives, and sources for the data used to monitor each objective.

These data can be used to assess needs, address issues, establish priorities, develop prevention strategies and implement interventions in the various health focus areas in this report among the general population, as well as among special population targets such as children, older adults, women, the poor, the disabled, and various race/ethnic groups. Achieving these objectives will improve the quality of public health and the quality of public health information as we begin the 21<sup>st</sup> century.

*Healthy California 2000 Final Review* illustrates the functions of the CDHS Center for Health Statistics in the collection, validation, and analysis of health data and the dissemination of health information in support of the CDHS mission to protect and improve the health of all Californians. As such, this document provides a useful framework for discussing critical issues and priorities for the future of public health in California.

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# Physical Activity and Fitness

## Contents

### 1.5 Sedentary Lifestyle



## PHYSICAL ACTIVITY AND FITNESS

### Background

The relationships between physical activity and health outcomes are numerous and complex, but there is ample evidence that regular physical activity can promote health and prevent diseases.<sup>1-5</sup> As many as 250,000 deaths per year in the United States have been attributed to a lack of regular physical exercise.<sup>6</sup> Kenneth Powell from the National Center for Injury Prevention, and Steven Blair from the Cooper Institute of Aerobics Research, estimated that 28,500 fewer people in the United States would die each year from coronary heart disease if the Healthy People 2000 Objectives for physical activity were met.<sup>7</sup> Other chronic diseases that benefit from regular physical activity include hypertension, depression, diabetes, osteoporosis, and colon cancer. Longevity and quality of life are also known to be enhanced.<sup>6</sup> As reported in the 1996 National Behavior Risk Factor Surveillance System (BRFSS), inactivity increases with age and is more common among women than men and among those with lower income and less education, as well as among Blacks and Hispanics generally.<sup>8</sup>

### National Health Status and Risk Reduction Objectives

Objective 1.1 to reduce coronary heart disease is a duplicate objective covered in the Heart Disease and Stroke section of this report under Objective 15.1.

Objective 1.2 to reduce overweight prevalence is also a duplicate objective covered in the Nutrition section of this report under Objective 2.3.

Objective 1.5 seeks to reduce to no more than 15 percent the proportion of people aged six and older who engage in no leisure-time physical activity. The age range for this national objective was modified to include persons aged 18 and older, consistent with the BRFSS data collection methodology. Special population target objectives have been established to reduce to no more than 22 percent the proportion of persons aged 65 and older (Objective 1.5a), and to no more than 17 percent of lower-income people having an annual family income of less than \$20,000, who engage in no leisure-time physical activity (Objective 1.5c). *Healthy People 2000 Midcourse* revisions added special population objectives for Black adults (1.5d, 20 percent) and Hispanic adults (1.5e, 25 percent) who engage in no leisure-time physical activity.

### Data Sources and Definitions

Data on prevalence of physical activity were obtained from the BRFSS, a population-based, random-digit dialed telephone survey developed by the U.S. Centers for Disease Control and Prevention (CDC) and conducted by the CDHS, Cancer Surveillance Section.<sup>8,9</sup> The number of BRFSS interviews conducted each year in California has ranged from 1,086 in 1984 to 4,003 in 1996.<sup>10</sup>

BRFSS asked respondents about the frequency, duration, and intensity of activities. The survey categorized respondents as having: (1) no physical activity (no exercise outside of normal work duties for the past month); (2) irregular physical activity (less than 3 times per week and/or less than 20 minutes per occasion); (3) regular but not intense activity (at least 3 times per week for at least 20 minutes each time, but not vigorous); or (4) regular and intensive activity (regular exercise involving large muscle groups in dynamic movement performed at an intensity of 60 percent or greater of an individual's cardio-respiratory capacity). Physical activity has been defined as any bodily movement produced by skeletal muscles that results in caloric expenditure.<sup>1</sup> Persons with no or irregular physical activity were defined as having a sedentary lifestyle.<sup>7</sup>

### **Summary of Progress in Physical Activity and Fitness Among Californians**

Table 1 shows the percentages of no leisure-time physical activity for various groups selected by the Healthy People Initiative for improvement toward assigned objectives. Since the *Healthy California Midcourse Review Report* was released, an additional two years of data from the BRFSS has been added, 1997 and 1998. The new data did not appreciably deviate from previous trends. Leisure-time exercise among California adults continues to not meet the objective of no more than 15 percent of the adult population not achieving the minimum amount of non-work exercise. However, the trend is gradually continuing toward the objective and in 1998 was 23.9 percent of the adult

population, down from a high of 28.9 percent in 1985.<sup>11</sup>

### **Aged 65 and Over**

Leisure-time exercise among those over age 65 has been gradually improving toward the objective of 22 percent of that older population. In 1993 the objective was met at 18.2 percent before trending back upward to 30.2 percent in 1998 (Table 1).<sup>11</sup>

### **Low Income**

The leisure-time exercise rate for low-income persons in California continues to be above the objective and there is no statistically significant trend either toward or away from the objective (Table 1).

### **Blacks**

For Black adults the rates have fluctuated with no statistically significant trend and range from a high of 39.3 in 1987 to a low of 16.4 in 1997. The objective for this group of 20.0 percent was met in 1997 (Table 1).<sup>11</sup>

### **Hispanics**

Similarly for Hispanic adults, there is no statistically significant trend in the rates that have fluctuated from a high of 39.5 in 1990 to a low of 27.7 in 1988. The rates have never met or exceeded the objective set for this group of 25 percent (Table 1).<sup>11</sup>

Table 1  
NO LEISURE-TIME PHYSICAL ACTIVITY  
California Residents 1997-1998

	AGED 18>	AGED 65>	LOW INCOME	BLACK ADULTS	HISPANIC ADULTS
Year	Percent	Percent	Percent	Percent	Percent
1997	20.0	23.5	32.8	16.4	36.9
1998	23.9	30.2	34.8	21.9	37.4
YEAR 2000 Objective	15.0	22.0	17.0	20.0	25.0

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# Nutrition

## Contents

- 2.3 Overweight**
- 2.4 Growth Retardation**
- 2.10 Iron Deficiency**
- 2.11 Breastfeeding**

## NUTRITION

### Background

Good nutrition and diet contribute to the health of the nation, but inadequate nutrition and diet contribute to the burden of preventable diseases and premature deaths.<sup>1-6</sup> Dietary factors have been associated with four of the ten leading causes of death in the United States: coronary heart disease, stroke, cancer, and non-insulin dependent diabetes mellitus. Hunger and malnutrition affect large segments of the U.S. population, having adverse health consequences for infants, children, the elderly, the poor, the homeless, and other groups at increased nutritional risk for nutritional diseases and conditions.

Since 1981, the CDC has collaborated with state health departments to conduct the BRFSS, which uses standard questionnaires and random-digit-dialing survey techniques to assess the prevalence of personal health practices and behaviors related to such things as weight control, physical activity, and high blood pressure.<sup>7</sup> During 1991, 47 states and the District of Columbia participated in BRFSS. These data indicate that the prevalence of overweight persons has been increasing, and that overweight has become particularly prevalent among low-income and minority women.<sup>8</sup>

Another CDC surveillance system, the Pediatric Nutrition Surveillance System (PedNSS), is used to monitor the nutritional status of low-income children served by a variety of publicly funded programs.<sup>9</sup> In 1996, CDC processed more than nine million PedNSS records from 42 states, the District of Columbia,

seven Indian Reservations, and Puerto Rico. Iron deficiency is the most common nutritional deficiency in the United States. Iron deficiency affects 7.8 million adolescent girls and women of childbearing age and 700,000 children aged one to two years. In young children, iron deficiency increases the risk of delays in motor and mental development, including decreased motor activity, social interaction, and attention to tasks. These delays may persist past school age if iron deficiency is not fully reversed. Therefore, prevention of iron deficiency is crucial in this age group. In pregnant women, iron deficiency increases the risk of pre-term delivery and delivering a low-birth weight baby.

In the past three decades, there has been a substantial decline in the prevalence of iron deficiency among young children in the United States, but it is still relatively common. Based on data from the latest PedNSS survey, nine percent of U.S. children 12-35 months old suffer from iron deficiency and three percent from iron deficiency anemia, the most severe form of iron deficiency. Iron deficiency anemia has declined to less than one percent among children older than three years of age. This success parallels better infant feeding practices among the population, including more breastfeeding and widespread availability and use of iron fortified infant foods.

Prevalence of growth retardation and iron deficiency anemia have been found to be high among children from families with incomes below the poverty level.<sup>10</sup> These conditions are the result of inadequate dietary intake in children,

and can cause low height for age (stunting) and cognitive impairment.<sup>11, 12</sup>

Seventeen of the 1990 health objectives for the Nation addressed improved nutritional status for persons in the United States.<sup>11</sup> Of these, progress was made toward achieving 6 objectives and the remaining 11 were either not achieved, or data were insufficient to monitor progress. Since then, nutrition objectives targeting iron deficiency anemia, growth retardation, overweight, dietary guidelines, and nutrition education have been revised and refined for the year 2000 Objectives to reflect a heightened awareness of the effects of nutrition on health.<sup>4</sup>

Data on breastfeeding initiation by California mothers first appeared in the *Healthy California 2000 Midcourse Review*. Future reports in this series may contain duration of breastfeeding during the first year of infant's life when planned data collection surveys are implemented by the CDHS. Recent research on the nutritional benefits of breastfeeding and the resulting disease prevention related cost savings associated with increased initiation and continuance of breastfeeding have prompted CDHS to take a leading role in promoting breastfeeding in birthing centers, outreach infant support programs, and a flexible workplace policy for working women in both public and private organizations. Research findings show breastfed infants have improved immune systems and therefore lowered incidence of common childhood diseases. Breast milk has also been found to contain growth factors not found in formula, and has been shown to improve neurological and cognitive development in infants.<sup>12-17</sup>

Infant feeding practices and choices play a major role in determining a young child's risk for iron deficiency. Of all milks and formulas, the iron from breast milk is the best absorbed, and breast milk provides enough iron to meet most infants' needs. Among infants who are not breastfed, infants fed iron-fortified infant formula have the lowest risk of iron deficiency. Introduction of iron rich foods and foods that enhance iron absorption at about four to six months of age, such as iron-fortified infant cereal and vegetables that contain vitamin C, decreases the risk of iron deficiency. Feeding infants with cow or goat milk before age one year and consumption of greater than three cups of cow's milk daily after the first year of life increases the risk of iron deficiency because this milk has little iron, may replace foods with higher iron content and, in infancy, may cause bleeding from the intestine.<sup>10</sup>

### **National Health Status and Risk Reduction Objectives**

Objective 2.3 seeks to reduce overweight to a prevalence of no more than 20 percent among people aged 20 and older and no more than 15 percent among adolescents aged 12 through 19. Since the BRFSS collects data on adults aged 18 years and over, the specified age range for this objective has been modified accordingly for this report. Special population target objectives have been established to reduce overweight by the year 2000 to no more than:

25%	among low-income women	(2.3a)
30%	among Black women	(2.3b)
25%	among Hispanic women	(2.3c)

30% among Native Americans (2.3d)

25% among people with disabilities (2.3e)

41% among women with high blood pressure (2.3f)

35% among men with high blood pressure (2.3g)

Objective 2.4 seeks to reduce growth retardation among low-income children aged five and younger to less than ten percent. Special population target objectives have been established to reduce growth retardation to less than ten percent among low-income:

Black children <age one (2.4a)

Hispanic children <age one (2.4b)

Hispanic children age one (2.4c)

Asian/Pacific Islander children age one (2.4d)

Asian/Pacific Islander children aged two to four (2.4e)

Objective 2.10 seeks to reduce iron deficiency to less than three percent among children aged one to four. Special population target objectives have been established to reduce iron deficiency prevalence to less than:

10% among low-income children aged one to two (2.10a)

5% among low-income children aged three to four (2.10b)

Objective 2.11 seeks to increase to at least 75 percent the proportion of mothers who breastfeed their babies in the early postpartum period, and to at least 50 percent the proportion who continue breastfeeding until their babies are six months old. Special population targets have been established to

increase the percentage of mother's breastfeeding during the early postpartum period:

### Year 2000 Target

75% Low-income mothers (2.11a)

75% Black mothers (2.11b)

75% Hispanic mothers (2.11c)

75% American Indian/  
Alaska Native mothers (2.11d)

### Year 2000 Target at age 6 months

50% Low-income mothers (2.11a)

50% Black mothers (2.11b)

50% Hispanic mothers (2.11c)

50% American Indian/  
Alaska Native mothers (2.11d)

### Data Sources and Definitions

Data on prevalence of overweight were obtained from BRFSS and analyzed by CDHS, Cancer Surveillance Section.<sup>18,19,20</sup> The measure of overweight reported in the BRFSS is based on the Body Mass Index (BMI), which is calculated from the respondent's height and weight. Overweight is defined by the National Heart, Lung, and Blood Institute. Overweight for males and females is defined as a BMI of 25.0 or higher.<sup>20</sup>

The PedNSS collects data from California Child Health and Disability Prevention Program (CHDP) providers through the CDHS Children's Medical Services Branch. The measure of growth retardation reported in the PedNSS is calculated from the child's height and age. Linear growth



retardation is defined as height-for-age below the fifth percentile of children in the National Center for Health Statistics' reference population.<sup>4</sup> Height-for-age is the ratio of the observed height to the expected height for a particular age and sex, and a ratio at or below the fifth percentile is considered to be an indicator of stunting that has occurred as a result of malnutrition.

Data on the prevalence of iron deficiency among low-income children were also provided through the PedNSS. Iron deficiency is defined as having abnormal results for two or more of the following tests: mean corpuscular volume; erythrocyte protoporphyrin; and transferring saturation.<sup>4</sup> Anemia is used as an index of iron deficiency among children and pregnant women, and is defined according to CDC criteria for low hemoglobin and/or hematocrit levels:<sup>10</sup>

Age	Sex	Hemoglobin	Hematocrit
		Below (gms/dl)	Below (percent)
1-<2	Both	11.0	32.9
2-<5	Both	11.1	33.0
5-<8	Both	11.5	34.5
8-<12	Both	11.9	35.4
12-<15	Female	11.8	35.7
12-<15	Male	12.5	37.3
15-<18	Female	12.0	35.9
15-<18	Male	13.3	39.7
18 & over	Female	12.0	35.7
18 & over	Male	13.5	39.9

The CDHS Genetic Disease Branch collects breastfeeding initiation information from the Newborn Screening Specimen Collection Form. This form reflects the mother's intention to breastfeed at the time the newborn screening test is completed, which is within 48 hours of birth. Over 98 percent of California's mothers are

screened since the program is mandatory at all facilities except some military facilities. Data in this report contain both mothers who breastfed exclusively and mothers who supplement breastfeeding with formula.<sup>21</sup>

### **Summary of Progress on Prevalence of Overweight among Californians**

Since the *Healthy California 2000 Midcourse Review* Report was released, the National Heart, Lung, and Blood Institute changed the definition of "overweight" to a BMI greater than 25. The BRFSS has subsequently revised the historical overweight percent data. As a result, California is farther from achieving the overweight prevalence objective of 20 percent of adults. The self-reported telephone survey results for 1997 (49.9%), 1998 (52.2%) and 1999 (52.9%) indicate rates are more than double the target objective and the statistically significant trend is increasing away from the Healthy People objective.

Table 2-A includes the overweight rates for various subgroups that are also far above their objectives as of 1999.

Table 2-A  
PREVALENCE OF OVERWEIGHT REPORTED  
AMONG SPECIAL POPULATION TARGETS

California Residents 1997-1999

	Low-SES*	Black	Hispanic	HBP**	HBP**
	Women	Women	Women	Women	Men
Year	Percent	Percent	Percent	Percent	Percent
1997	52.9	61.5	53.2	47.3	67.7
1998	54.2	61.6	58.0	49.7	73.8
1999	55.5	65.0	57.2	47.3	73.3
Year 2000					
Objective	25.0	30.0	25.0	41.0	35.0

\* SES= Socioeconomic status defined as income less than \$20,000/yr.  
 \*\* HBP=High blood pressure defined as > 140mm Hg systolic &/or 90mm Hg diastolic &/or take antihypertensive medication.

Table 2-B  
GROWTH RETARDATION AMONG LOW-INCOME CHILDREN  
California Residents 1997-1999

Year	Black Under Age 1		Hispanic Under Age 1		Hispanic Age 1		Asian/PI Age 1		Asian/PI Age 2-4	
	Number Of Exams	Percent	Number Of Exams	Percent	Number Of Exams	Percent	Number Of Exams	Percent	Number Of Exams	Percent
1997	42,665	11.2	457,023	5.4	203,881	6.9	15,449	11.2	20,642	8.1
1998	46,098	11.0	506,645	5.6	229,496	6.9	16,055	11.8	21,805	7.9
1999	33,573	11.4	395,669	5.7	174,922	7.5	10,654	11.2	14,803	7.5
Year 2000										
Objective		10.0		10.0		10.0		10.0		10.0

Table 2-C  
PREVALENCE OF IRON-DEFICIENCY ANEMIA  
AMONG LOW-INCOME CHILDREN  
California 1997-1999

Year	AGES 1-2		AGES 3-4	
	Number	Percent	Number	Percent
1997	43,234	18.2	31,527	15.3
1998	48,530	17.5	33,603	14.4
1999	37,027	17.1	25,987	13.8
YEAR 2000				
OBJECTIVE		10.0		5.0

### **Summary of Progress on Growth Retardation Among Low-Income California Children**

Table 2-B presents data on growth retardation among children from low-income families in California receiving CHDP exams for the period from 1997 to 1999. Progress on objective 2.4 could not be assessed for California since PedNSS data were not grouped according to the five and younger age range, as specified in *Healthy People 2000*. PedNSS data on low height-for-age were available to monitor progress in achieving special population target Objectives 2.4a through 2.4e.

Table 2-B indicates the percent of children with growth retardation for the various subgroups listed. Black children under one year of age remain above the objective through 1999. Hispanic children under one and age one have achieved the objective continuously, maintaining a low percentage since 1989.<sup>22</sup> Asian and Pacific Islander children age one remain slightly above their objective through 1999 but have trended down from a high of 15.7 percent in 1989.<sup>21</sup> This race group aged two through four remains below their objective of ten percent, achieving a low of 7.5 percent in 1999.

### **Summary of the Progress for Iron-Deficiency Anemia Among California Children**

Table 2-C presents PedNSS data collected during the period 1997-1999 on the prevalence of anemia as defined by low hemoglobin among children from low-income families in California receiving CHDP exams. Progress on Objective 2.10 could not be assessed

definitively for California, since PedNSS data are only for low-income children receiving CHDP exams, and statewide data on iron deficiency anemia among women of childbearing age were not available.

Table 2-C indicates iron-deficiency anemia among low-income children remains above the target objectives set for California children aged one through two years and those three through four years of age.

### **Summary of Progress in Breastfeeding Initiation Percentage among California Mother's**

Table 2-D presents data collected from 1997 to 1999 on breastfeeding initiation that includes "breastfeeding exclusively including breastfeeding with formula supplementation." The trend for the last two decades indicates a general increase in the percentage of all mothers initiating breastfeeding exclusively and initiating breastfeeding with additional formula supplementation.<sup>22</sup> Data not shown in Table 2-D but included in sources based on the California Newborn Screening Survey categorizes "breastfeeding exclusively" versus "breastfeeding with formula supplementation" and shows that White mothers consistently have the highest ratio of the four race/ethnic groups of "breastfeeding only" to "breastfeeding that included formula supplementation."<sup>21</sup>

In 1997, breastfeeding initiation for the total California population of mothers exceeded the Healthy People Objective of 75 percent of mothers initiating breastfeeding, increased in 1998 (80 percent), and reached a high of 81 percent in 1999 as projected in the previously published *Healthy California 2000 Midcourse Review*.<sup>22</sup>

### Hispanics

Hispanic mothers also exceeded the objective in 1997 (79 percent) as projected in the previous *Healthy California 2000 Midcourse Review* Report, increased the rate in 1998 (80 percent) and 1999 (81 percent).<sup>22</sup>

### Blacks

Black mothers have been below the objective since the data were collected but progress toward the objective remains constant with the highest percentage for Blacks recorded in 1999 at 64 percent.

Table 2-D  
BREASTFEEDING INITIATION PERCENTAGE  
BY RACE/ETHNICITY  
California Residents 1997-1999

Year	Total		Asian/Other		Black		Hispanic		White	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1997	392,189	78	35,602	71	18,404	60	201,003	79	125,951	83
1998	402,782	80	34,961	75	19,203	63	202,788	80	130,020	85
1999	399,540	81	36,294	78	18,773	64	193,087	81	134,361	85
Year 2000 Objective		75.0				75.0		75.0		

Note: Includes Breastfeeding exclusively and Breastfeeding with Formula Supplementation

## **Trends in dietary practices**

Data used for the evaluation of trends in dietary intake for Objectives 2.6 and 2.8 were obtained from the California Dietary Practices Survey, designed for use in the California Five a Day Campaign.<sup>23</sup> Although these data are not directly comparable to the National Health Objectives, they do provide surrogate measures of nutritional factors that contribute to the health of Californians.

California data for 1999 indicate that only 32 percent of the adults surveyed reported having five servings of fruits and vegetables, and only ten percent reported having eaten servings of whole grain bread/tortilla and high fiber cereals the previous day. Objective 2.6 seeks to increase complex carbohydrate and fiber-containing foods in the diet for all persons over age two to five or more daily servings for vegetables and fruits and to six or more daily servings for grain products.<sup>4</sup>

Objective 2.8 seeks to increase calcium intake so at least 50 percent of persons aged 11-24 and 50 percent of pregnant and lactating women consume an average of three or more servings daily of foods rich in calcium, and at least 75 percent of children aged 2-10 and 50 percent of people aged 25 and older consume an average of two or more calcium rich servings daily. The 1999 California Dietary Practices Survey data show that 80 percent of women aged 18-24 and 90 percent of men aged 18-24 consumed any milk products the previous day. For men and women aged 18 and older, these figures were 80 and 78 percent, respectively.

The Institute of Medicine has emphasized three strategies for improving nutrition and health before the year 2000: 1) increasing the role of government and health-care professionals in developing nutrition policy and agendas; 2) improving nutrition knowledge and practices among the public; and 3) increasing the availability of foods that conform to dietary recommendations.<sup>4</sup>

Implementing these strategies will involve coordinated efforts between the various levels of government, and between the public and private sectors, aimed at specific populations identified as being at increased risk for nutrition-related diseases and conditions that adversely affect health.

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# Tobacco

## Contents

- 3.3 Chronic Obstructive  
Pulmonary Disease Deaths**
- 3.4 Cigarette Smoking Prevalence**



## TOBACCO

### Background

Despite accumulating scientific evidence and growing public awareness of the health consequences of tobacco use, an estimated one-third of the adult population of the United States, or approximately 50 million Americans, continue to smoke tobacco. Tobacco products kill over 430,000 Americans each year. This is one-fifth of all deaths, and more than all those from Acquired Immunodeficiency Syndrome, alcohol, cocaine, heroin, homicide, suicide, motor-vehicle crashes, and fires combined.<sup>1,2,3</sup> Tobacco use is a major risk factor for heart diseases, cancers, and chronic obstructive pulmonary diseases (COPD). Smoking accounts for about 87 percent of lung cancer deaths, 82 percent of COPD deaths, and 21 percent of all coronary heart disease (CHD) deaths.<sup>4,5</sup> Smoking-related illnesses cost the Nation \$50 billion in health care costs.<sup>5</sup>

Trends in CHD and lung cancer deaths are duplicate objectives covered in detail in other sections of this report. The focus of this section will be on the national health status objective for COPD, not covered elsewhere.

During 1998, the category "COPD and Allied Conditions" was the fourth leading cause of death nationally, and resulted in five million years of potential life lost each year.<sup>6</sup> Nationally age-adjusted COPD mortality rates went from 15.9 deaths per 100,000 population in 1980 to 21.6 deaths per 100,000 population in 1998.<sup>6</sup>

### Data Sources and Definitions

CDHS Death Statistical Master Files are the primary data source. Mortality data were extracted for California residents by age, race/ethnicity, and sex for the period 1980 through 1998. Denominator data used in the calculation of rates were supplied by the California Department of Finance, Demographic Research Unit. Data on prevalence of smoking were obtained from the California Behavioral Risk Factor Surveillance System (BRFSS) Survey, maintained by the CDHS, Disease Prevention and Health Promotion Branch, Cancer Surveillance Section.

COPD was defined using ICD-9 codes 490-496, consistent with *Healthy People 2000*.<sup>1</sup> This aggregate category is composed of the following conditions: bronchitis (codes 490-491), emphysema (492), asthma (493), bronchiectasis (494), extrinsic allergic alveolitis (495), and chronic airway obstruction (496).<sup>7</sup>

## **National Health Status Objectives**

Objective 3.1 to reduce deaths caused by coronary heart disease is covered under Objective 15.1 in the “Heart Disease and Stroke” section of this report.

Objective 3.2 to reduce deaths due to lung cancer is covered under Objective 16.2 in the “Cancer” section of this report.

Objective 3.3 seeks to slow the rise in deaths from COPD achieve a rate of no more than 25.0 per 100,000 people by the year 2000.

## **National Risk Reduction Objective**

Objective 3.4 targets reduction in cigarette smoking to a prevalence of no more than 15 percent among people aged 18 and older by the year 2000.

## **Summary of Progress for Chronic Obstructive Pulmonary Disease Mortality**

California has met the established Healthy People 2000 Objective of 25.0 deaths per 100,000 persons each year from 1980 (17.7) to 1998 (20.8).<sup>8</sup> However, the rates reveal a statistically significant upward trend projected to be at 22.1 in the year 2000. Meeting the COPD objective was predicted in the *Healthy California 2000 Midcourse Review* and there is no change in status with the addition of 1997 and 1998 data as shown in Table 3-A.<sup>8</sup>

## **Summary of Progress for Smoking Prevalence**

The other objective in the priority area of tobacco addresses smoking prevalence. The prevalence data are based on the California BRFSS Survey for the period of 1984 to 1992 and the combined BRFSS/California Adult Tobacco Survey for the period of 1993 to 1999. A definitional change of “current smoker” in 1996 also resulted in the inclusion of more occasional smokers. Rates published in *Healthy California 2000 Midcourse Review* have been revised in Table 3-B and Figure 3 due to the subsequent combining of the two surveys and definitional changes. The data for 1997 (18.2), 1998 (18.4), 1999 (18.0), and 2000 (17.1) show that the objective for smoking prevalence was not met by the year 2000, but is trending toward the objective of 15.0 percent smoking prevalence among adults (Figure 3).<sup>8,9</sup>

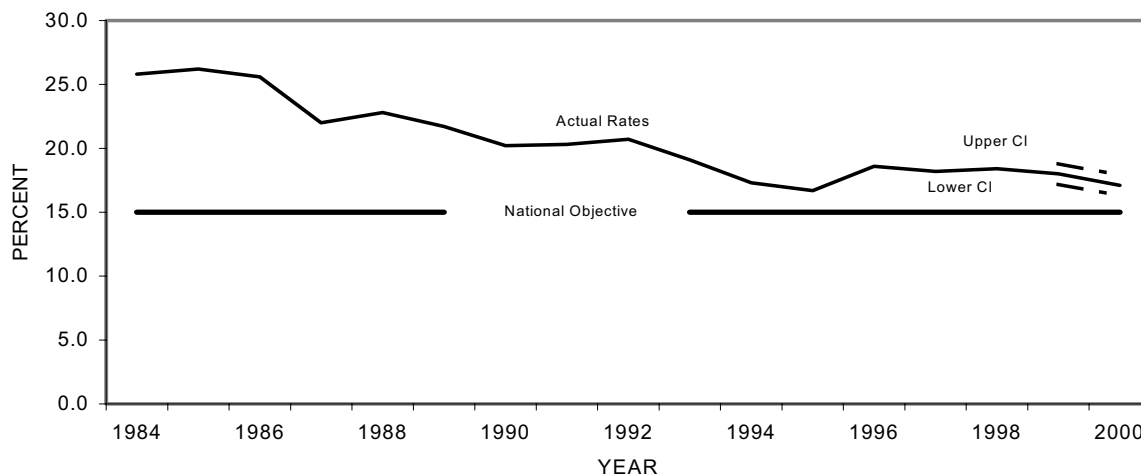
Table 3-A  
CHRONIC OBSTRUCTIVE PULMONARY DISEASE DEATHS AGE-ADJUSTED DEATH RATES  
PER 100,000 POPULATION BY RACE/ETHNICITY

Year	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	11,737	20.8	569	10.5	607	22.9	624	7.4	9,937	24.8
1998	12,261	21.2	517	8.9	651	24.4	674	7.9	10,419	25.4
Year 2000 Objective		25.0								

Table 3-B  
SMOKING PREVALENCE  
California Residents, 1984-2000

Year	Percent
1984	25.8
1985	26.2
1986	25.6
1987	22.0
1988	22.8
1989	21.7
1990	20.2
1991	20.3
1992	20.7
1993	19.1
1994	17.3
1995	16.7
1996	18.6
1997	18.2
1998	18.4
1999	18.0
2000	17.1
YEAR 2000 OBJECTIVE	15.0

Figure 3  
PREVALENCE OF SMOKING AMONG PERSONS AGED 18+  
California, 1984-2000



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# **Alcohol and Other Drugs**

## **Contents**

- 4.1 Alcohol-Related Motor Vehicle Deaths**
- 4.2 Cirrhosis Deaths**
- 4.3 Drug-Related Deaths**
- 4.4 Drug Abuse-Related Emergency Room Visits**

## ALCOHOL AND OTHER DRUGS

### Background

Diseases and injuries associated with alcohol and other drug use and abuse are substantial contributors to premature mortality and to health care costs in the United States.<sup>1-5</sup> During 1998, 18,971 persons died from alcohol-induced causes and 13,929 persons died of drug-induced causes nationally.<sup>6</sup> Economic costs for society resulting from alcohol and drug abuse are about \$1,000 per person annually to cover the costs of health care, law enforcement, motor vehicle crashes, crime, and lost productivity due to substance abuse.<sup>7</sup>

The abuse of illicit drugs has also had a profound impact on the Nation's health. The relationship between injecting drug use and HIV transmission is well known. Illicit drug abuse and related HIV/AIDS account for at least 12,000 deaths annually. Injecting drug use is also associated with hepatitis B and C infection. The use of cocaine, nitrites, and other substances can produce cardiac irregularities and heart failure, convulsions, and seizures.<sup>7</sup>

Alcohol-related motor vehicle crash death rates have declined overall since 1987. These declines are the result in part of new legislation requiring stricter license revocation for driving under the influence of alcohol and drugs and lower blood alcohol concentration levels in drivers tested by law enforcement personnel. Still, alcohol-related motor vehicle deaths for 1997 amounted to 16,189 persons for the United States.<sup>8</sup>

Alcohol use is associated with more than 45 percent of all motor vehicle

crash fatalities, roughly one-third of the homicides and suicides, and 22 percent of all fatal boating accidents.<sup>7</sup>

Nationally, the chronic liver disease and cirrhosis death rate has declined during the past decade. The CDC reports that chronic liver disease and cirrhosis was the tenth leading cause of death in the Nation during 1998, responsible for 24,936 deaths in all age groups.<sup>6</sup>

### Data Sources and Definitions

Cirrhosis mortality data for California residents were extracted from the CDHS, Death Statistical Master Files for the years 1997 through 1998, using ICD-9 code 571. Drug-related mortality data were also extracted from these files, using ICD-9 codes 292, 304, 305.2-305.9, E850-E858, E950.0-E950.5, E962.0, and E980.0-E980.5.

Data for drug-related hospital emergency room visits from 1997 to 1998 were obtained from the California Office of Statewide Health Planning and Development's Hospital Discharge Data Program using the principal diagnosis, or the condition established to be chiefly responsible for occasioning the admission of the patient to the hospital for care. The first complete year that these data were available in a format that could be used to monitor this objective, including inpatient admissions through hospital emergency departments was 1991.<sup>9</sup> The ICD-9 codes used to define drug-related hospitalizations were the same as those used to define drug-related mortality, with the addition of codes E935-E939 to include the adverse effects of drugs in therapeutic use.<sup>10</sup>

Data for alcohol-related motor vehicle crash deaths were obtained from the California Highway Patrol Statewide Integrated Traffic Records System.<sup>11</sup>

Population data by age, race/ethnicity, and sex, used in the calculation of mortality rates were provided by the California Department of Finance, Demographic Research Unit.

Objective 4.3 focuses on reductions in drug-related deaths to no more than 3.0 per 100,000 by the year 2000, and Objective 4.4 seeks to reduce drug abuse-related hospital emergency department visits to no more than 140.6 per 100,000.

### **National Health Status Objectives**

Objective 4.1 was established to reduce deaths caused by alcohol-related motor vehicle crashes to no more than 5.5 per 100,000 by the year 2000. Special population target objectives have been established to reduce alcohol-related motor vehicle crash death rates among American Indian/Alaska Native men to no more than 35.0 per 100,000 (Objective 4.1a), and among persons aged 15-24 years to no more than 12.5 per 100,000 (Objective 4.1b) by the year 2000.

Objective 4.2 seeks to reduce cirrhosis deaths to no more than 6.0 per 100,000 by the year 2000. Objectives targeting reductions in cirrhosis deaths among Black males to no more than 12.0 per 100,000 (Objective 4.2a).

Objectives to reduce cirrhosis deaths among American Indians/Alaska Natives to no more than 10.0 per 100,000 (Objective 4.2b) and among Hispanics to no more than 10.0 per 100,000 (Objective 4.2c) have also been established.

## ALCOHOL-RELATED MOTOR VEHICLE CRASH DEATHS

### Summary of Progress on Alcohol-Related Motor vehicle Crash Death Trends in California

Data in Table 4-A indicate the numbers of deaths continuing to decline for alcohol-related motor vehicle accident fatalities in California from 1997 through 1999. The decline in the death rate per 100,000 population has been steady since 1987 (10.7).<sup>12</sup> The year 2000 objective for all age groups has been met since 1993.<sup>12</sup>

### Youth Aged 15-24 Years

The alcohol-related motor vehicle accident fatalities for youth aged 15 through 24 are also continuing to decline as shown in Table 4-A. The year 2000 objective for this group has been met since 1992 (11.7) and the alcohol-related motor vehicle death rate for this age group declined between 1986 (22.9) and 1999 (6.5).<sup>12</sup>

Table 4-A  
ALCOHOL-RELATED MOTOR VEHICLE CRASH  
DEATHS AND DEATH RATES PER 100,000 POPULATION  
California 1997-1999

Year	Total	Rate*	Youth 15-24	Rate**
1997	1,100	3.4	271	6.3
1998	1,072	3.4	301	6.9
1999	1,170	3.6	293	6.5
Year 2000 Objective		5.5		12.5

\* Age-adjusted rate

\*\* Age-specific rate



## CIRRHOSIS DEATHS

### Summary of Progress for Cirrhosis Mortality in California

Cirrhosis deaths and death rates declined in 1997 and 1998 as shown in Table 4-B, and as projected in the *Healthy California 2000 Midcourse Review*.<sup>12</sup> The lowest rate of 8.9 in 1998 remains above the year 2000 objective of 6.0 deaths per 100,000 population, despite significant progress in the last two decades.

### Hispanics

The special population sub-objective for Hispanic cirrhosis deaths is closer to being achieved with the further declines in 1997 (13.6) and 1998 (13.7), but remains above the objective of 10.0 deaths per 100,000 population (Table 4-B).

### Black Males

Black males constitute another special population sub-objective for cirrhosis deaths, and as in the case of the total population and the Hispanic group, rates for 1997 and 1998 declined from previous years, however, the objective of 12.0 Black male deaths per 100,000 population will not be met. The rate for 1997 was 13.3 and the rate for 1998 was 13.1 per 100,000 population (Table 4-C).<sup>12</sup>

Table 4-B  
CIRRHOSIS DEATHS AND AGE-ADJUSTED DEATH RATES PER 100,000 POPULATION  
BY RACE/ETHNICITY  
California 1997-1998

Year	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	3,502	9.2	153	3.7	213	9.4	944	13.6	2,192	8.9
1998	3,460	8.9	163	3.7	210	9.0	987	13.7	2,100	8.4
Year 2000 Objective		6.0						10.0		

Table 4-C  
CIRRHOSIS DEATH AND AGE-ADJUSTED DEATH RATES  
PER 100,000 FOR SPECIAL POPULATION TARGET GROUPS  
California 1997-1998

Year	Black Males	
	Number	Rate
1997	136	13.3
1998	138	13.1
Year 2000 Objective		12.0

## DRUG-RELATED DEATHS

### Summary of Progress for Drug-Related Mortality and Morbidity in California

Drug-related deaths and death rates were on a statistically significant increasing trend between 1980 and 1996 as analyzed in the *Healthy California 2000 Midcourse Review*. Data for 1997 and 1998 (Table 4-D) for all of the population groups for drug related death rates indicate a decreasing trend toward the objectives but death rates will not meet or exceed any of the established targets.<sup>12</sup>

### Drug-related Hospital Emergency Room Visits

Drug-related hospital emergency room visits have met the year 2000 objective of 140.6 per 100,000 population since 1991.<sup>12</sup> Rates for 1997 (92.0) and 1998 (86.9) are not a significant change from previous years.

Table 4-D  
DRUG-RELATED DEATHS AND AGE-ADJUSTED DEATH RATES PER 100,000 POPULATION  
BY RACE/ETHNICITY  
California 1997-1998

Year	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	2,636	7.5	84	2.1	320	13.6	505	5.6	1,724	8.7
1998	2,490	6.9	66	1.6	286	11.8	521	5.6	1,616	8.1
Year 2000 Objective		3.0				3.0		3.0		

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# Family Planning

## Contents

### 5.1 Adolescent Pregnancy

## FAMILY PLANNING

### Background

Five of the 11 objectives in the family planning priority area of Healthy People 2000 focus on the teenage population and reductions in pregnancies among teenagers.<sup>1</sup> National data on the numbers and rates of live births are published annually by the National Center for Health Statistics (NCHS). However, data for the other components of pregnancy outcome, fetal losses and abortions, are not as readily available.<sup>2</sup> The number of teenage pregnancies, defined by NCHS as the sum of live births, fetal losses, and induced abortions among females aged 15-19 years, declined nationally by 3.1 percent from 867,100 in 1995 to 840,000 in 1997 and the pregnancy rate per 1,000 females aged 15-19 decreased from 98.3 in 1995 to 90.7 in 1997 or 7.8 percent.<sup>3</sup>

National estimates show 54 percent of all students in grades 9-12 have had sexual intercourse.<sup>4</sup> One-quarter of teen births are repeat teen births.<sup>5</sup> In 1999, 65 percent of teen births in California were among Hispanic mothers. Eighty percent of females who become mothers before age 18 do not finish high school.<sup>6</sup> Between 11 percent and 17 percent of low-birth weight babies are born to teen mothers, and these infants require 2.5 times more special education services than those of normal birthweight.<sup>7</sup>

The birth rate for teenagers nationally decreased in 1998 by two percent from 1997 to a birth rate of 51.1 per 1,000 females aged 15-19 years. This is a continuation of the decline in the national teen pregnancy rate of

15 percent from 1991 (116.5) to 1996 (98.7).<sup>8</sup> Factors cited as potential reasons for the decline include stabilized proportions of sexually active teenagers, an increase in the number and effectiveness of abstinence programs aimed at teens, and increased willingness by sexually active teens to use contraception.<sup>8</sup>

Although some studies suggest that younger maternal age may be an independent risk factor for adverse pregnancy outcomes, other research indicates that poor health outcomes among adolescents who give birth can be attributed more to socioeconomic and behavioral factors such as poverty, low education level, inadequate nutrition, and substance abuse, than to intrinsic medical risk factors.<sup>9,10</sup> The Public Health Institute estimated the age-weighted average annual taxpayer cost associated with each teen birth in Californian's aged 15 to 19, to be \$2,129 and total societal costs to be \$4,750 per year for each teen birth or an annual cost estimate to California taxpayers of \$1.5 billion.<sup>11</sup>

### National Health Status Objectives

Objective 5.1 seeks to reduce pregnancies among females aged 15-17 to no more than 50 per 1,000 adolescents. Special population target objectives have been established to reduce pregnancies among Black females aged 15-19 to no more than 120 per 1,000 adolescents (Objective 5.1a), and among Hispanic females aged 15-19 to no more than 105 per 1,000 adolescents (Objective 5.1b).

## Data Sources and Definitions

Given the lack of complete data on the number of abortions performed among California teenagers, this section will present data on live births only. These data are tabulated by age group (under 15, 15-17, and 18-19), and by race/ethnicity (Black, Hispanic, White, and Asian/Other) for the years 1997 through 1999.

Live birth data were extracted from the CDHS, Birth Statistical Master Files. Population denominator data were provided by the California Department of Finance, Demographic Research Unit. Females aged nine and under are not included in denominators.

### Summary of Progress in Live Births Among California Teens

The number of births among teenage California females peaked in 1991 and has been steadily decreasing, to a low of 57,615 in 1999.<sup>12</sup> Teen birth rates among Hispanics and Blacks are significantly higher than rates among the other race/ethnic groups examined and although they have been decreasing annually since 1990, the rate of decline is more gradual than that of Whites or Asian/Others.<sup>12</sup>

Birth data alone are not recommended as a surrogate measure for monitoring trends in teenage pregnancies.<sup>1</sup> However, according to the Alan Guttmacher Institute, 50 percent of California teen births are live and the other half are either aborted or are miscarriages.<sup>13</sup>

## Females 15-17

Midcourse revisions to Objective 5.1 targeting reductions in teenage pregnancy specified an overall rate of 50.0 per 1,000 females aged 15-17 by the year 2000.<sup>14</sup>

Among California females aged 15-17, there were 20,209 live births during 1999, a rate of 30.1 per 1,000 female population (Table 5). If the number of live births reflects only half of all pregnancies among teenagers, then there could have been approximately 40,400 pregnancies among California females aged 15-17 years, a rate of 60.2 pregnancies per 1,000 female adolescents. This hypothetical pregnancy rate would place California above the national objective of 50.0.

### Black Females 15-19

Objective 5.1a, targeting reductions in pregnancies among Black females aged 15-19, specifies a rate of 120.0 per 1,000 female adolescents by the year 2000.

Among Black California females aged 15-19, there were 5,388 live births during 1999 and a birth rate of 63.0 per 1,000. Again, based on the abortion assumption, the estimated number of pregnancies could have been approximately 10,800 with a pregnancy rate of 126.2. This hypothetical pregnancy rate would also be above the national objective of 120.0 for this group.

## Hispanic Females 15-19

Among Hispanic females aged 15-19, Objective 5.1b specifies a target pregnancy rate of 105.0 per 1,000 female adolescents by the year 2000. California data for 1999 show a total of 36,685 live births among this group, with a birth rate of 92.7 per 1,000 female adolescents. Adding the hypothetical number of abortions and miscarriages to the birth data indicates that there could have been 73,400 pregnancies, and a pregnancy rate of 185.5. This hypothetical pregnancy rate for Hispanic California females aged 15-19 would not likely meet the national objective for this group.

Table 5  
LIVE BIRTHS AND BIRTH RATES PER 1000 FEMALE ADOLESCENTS  
BY AGE AND RACE/ETHNICITY OF MOTHER  
California 1997-1999

YEAR	AGE	TOTAL		BLACK		HISPANIC		WHITE		ASIAN/OTHER	
		Births	Rate	Births	Rate	Births	Rate	Births	Rate	Births	Rate
1997	Total	61,107	27.8	6,470	37.0	38,625	50.1	12,540	12.7	3,319	12.2
	<15	1,256	1.1	177	2.0	856	2.1	140	0.3	77	0.6
	15-17	23,064	35.7	2,364	45.8	15,425	68.4	3,960	13.7	1,257	15.5
	18-19	36,787	90.1	3,929	117.8	22,344	162.6	8,440	45.4	1,985	38.4
1998	Total	59,207	26.1	5,950	33.5	37,703	46.8	12,161	12.1	3,169	11.3
	<15	1,066	0.9	134	1.5	758	1.8	110	0.2	60	0.4
	15-17	21,630	32.6	2,101	41.4	14,571	61.9	3,715	12.7	1,159	13.7
	18-19	36,511	85.1	3,715	107.7	22,374	153.9	8,334	42.9	1,950	35.5
1999	Total	57,615	24.7	5,507	30.4	37,418	44.5	11,304	11.0	3,177	10.9
	<15	1,038	0.9	119	1.2	733	1.6	129	0.2	50	0.3
	15-17	20,209	30.1	1,865	37.2	14,042	58.7	3,153	10.7	1,073	12.4
	18-19	36,368	80.0	3,523	99.3	22,643	144.8	8,022	39.4	2,054	34.8

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# **Violent and Abusive Behavior**

## **Contents**

- 7.1 Homicide**
- 7.2 Suicide**
- 7.3 Firearm-Related Deaths**

## HOMICIDE

### Background

Acts of violence and abusive behavior extract a heavy toll on public health and safety. Homicide and suicide resulted in over 46,000 deaths annually in the United States between 1985 and 1998, and victims of violence exceed two million persons a year. Handguns are the primary means of firearm-related deaths and account for about 75 percent of all firearm crimes and suicides.<sup>1</sup>

In the past decade, legislation limiting access to handguns and calling for their proper storage, as well as stiffer prison sentences for felony firearm use have been implemented in response to the unintentional injuries, suicides and homicides in California. An ongoing collaboration between law enforcement, public health services, and community groups will be required to effectively address violent, abusive, and self-destructive behavior in our society. The Healthy People 2000 program has established national objectives to reduce death caused by homicide, suicide and firearm-related mortality of all kinds.

In addition, national objectives have been established for child abuse, rape incidence, and violence to females by their male partners, and others.<sup>2</sup> Unfortunately, reliable data for these objectives are nonexistent or just becoming available and may be incorporated in future *Healthy California* reports. Data from vital statistics alone cannot be used to monitor and evaluate progress in achieving all of the objectives targeting violent and abusive behaviors. Integration of data and reporting systems across criminal

justice, mental health, finance, social services, and health services at the national, state, and local levels will be an essential component of this effort.

During 1998, 17,350 people were victims of homicide (age-adjusted rate of 6.9 per 100,000 population) and legal intervention in the United States. Homicide was ranked as the 13<sup>th</sup> leading cause of death in the nation in 1997, the tenth leading cause in California in 1998 and remains one of the leading causes of premature mortality.<sup>3</sup>

### Data Sources and Definitions

Mortality data by cause of death, age, race/ethnicity, sex, and county of residence were extracted from the CDHS, Death Statistical Master Files for 1980 through 1998. Population data by age, race/ethnicity, and sex used in the computation of mortality rates were provided by the Department of Finance, Demographic Research Unit.

Homicide was defined using ICD-9 codes E960-E969.<sup>4</sup> These definitions are consistent with those found in *Healthy People 2000*. The U. S. Department of Justice defines homicide as the willful killing of one human being by another and includes justifiable killings of felons by a citizen or peace officer in the line of duty.<sup>5</sup> Legal intervention deaths (ICD-9 codes E970-E978) are not included in the *Healthy People 2000* definition of homicide.

## **National Health Status Objectives**

Objective 7.1 seeks to reduce homicides to an age-adjusted rate of no more than 7.2 per 100,000 population by the year 2000. Special population target objectives have been established to reduce homicide death rates per 100,000 population among:

Children aged three and younger to 3.1 (7.1a)

Black men aged 15-34 to 72.4 (7.1c)

Hispanic men aged 15-34 to 33.0 (7.1d)

Black women aged 15-34 to 16.0 (7.1e)

American Indians/Alaska Natives to 9.0 (7.1f)

## **Summary of Progress for Homicide Trends in California**

The homicide rate peaked at 4,206 deaths in 1993 and the trend since then is close to the objective (7.2) reaching its lowest rate of 7.5 in 1998. Although progress has been made, this objective will not be met (Table 7-A).<sup>6</sup>

### **Children Aged 3 and Under**

The homicide death rate among children aged three years and younger has fluctuated over the past two decades without a statistically significant trend.

The rate remained above the objective (3.1) until 1998 when a homicide rate for children aged three and under of 2.9 was achieved (Table 7-B, Figure 7.1a).<sup>6</sup>

## **Black Males 15-34 Years of Age**

The homicide death rate among Black males aged 15-34 years peaked in 1993 (199.7) and declined to a low of 79.8 in 1998, slightly above the objective (72.4) (Table 7-B).<sup>6</sup> Homicide is a leading cause of death in this race/age group.

### **Black Females Aged 15-34**

The homicide death rate among Black females aged 15-34 years peaked in 1987 (32.3) and trended down to a low of 14.5 deaths per 100,000 population in 1997, and up only slightly to 14.8 in 1998. Both years met the objective (16.0) for the first time since 1980 (Table 7-B, Figure 7.1c).<sup>6</sup>

### **Hispanic Males Aged 15-34**

The homicide death rate among Hispanic males aged 15-34 peaked in 1992 (64.9) and trended lower to a rate of 36.9 homicide deaths per 100,000 population in 1998. The objective of 33.0 will not be met. (Table 7-B).<sup>6</sup>

Table 7-A  
HOMICIDE DEATHS AND AGE-ADJUSTED DEATH RATES PER 100,000 POPULATION  
BY RACE/ETHNICITY  
California 1997-1998

Year	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	2,780	9.3	194	5.4	717	32.4	1,180	13.1	680	4.1
1998	2,265	7.5	160	4.2	563	25.0	970	10.5	567	3.4
Year 2000 Objective		7.2								

Table 7-B  
HOMICIDE DEATHS AND DEATH RATES PER 100,000  
FOR SPECIAL POPULATION TARGET GROUPS  
California 1997-1998

Year	Black Males Aged 15-34		Black Females Aged 15-34		Hispanic Males Aged 15-34		Children Aged 3 and Under	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	433	112.0	51	14.5	787	44.1	84	3.8
1998	308	79.8	52	14.8	662	36.9	63	2.9
Year 2000 Objective		72.4		16.0		33.0		3.1

Figure 7-A  
HOMICIDE DEATH RATES  
AMONG CHILDREN AGED 3 AND UNDER  
California 1980-1998

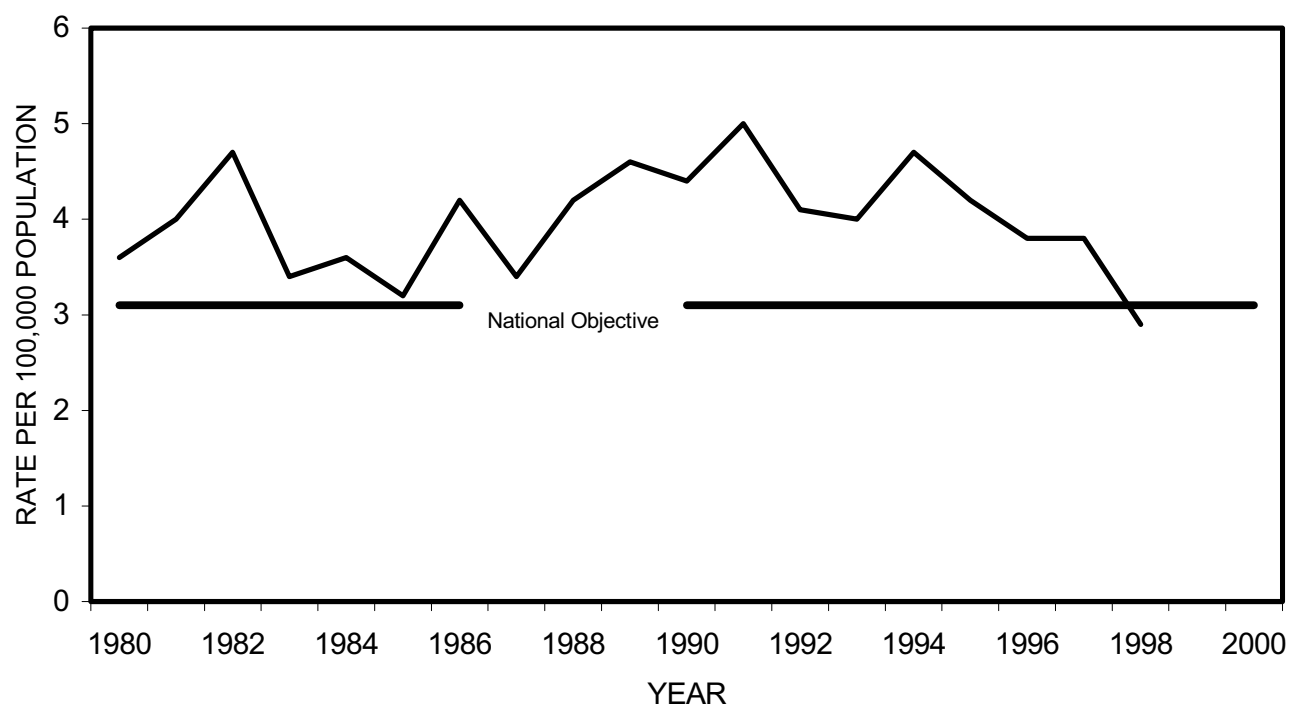
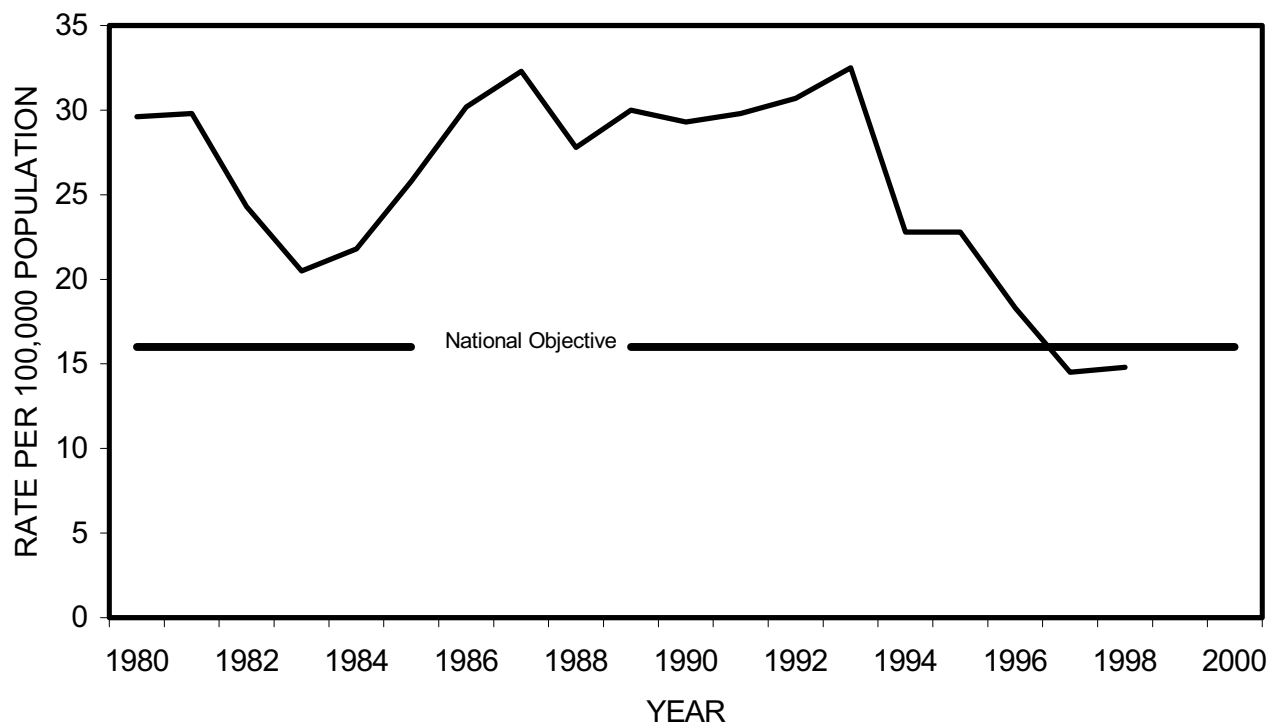


Figure 7-B  
HOMICIDE DEATH RATES AMONG BLACK FEMALES AGED 15-34  
California 1980-1998



## SUICIDE

### Background

Suicide was the eighth leading cause of death in the United States, accounting for 29,264 deaths, and was the ninth leading cause of death in California during 1998.<sup>3</sup> Suicide is the third leading cause of death for young Californians aged 15-24. Nationally, more people die from suicide than from homicide. Males are four times more likely to die from suicide than are females, although females attempt more suicides than males. White males commit the majority of suicides in any given year, particularly the elderly. Firearms were used in nearly three out of five suicides in 1997.<sup>7</sup> The national age-adjusted suicide death rate has remained relatively stable from 1980 to 1996, although differentials by sex and by race/ethnicity are evident in the data.

Whether a death was a suicide is determined by coroners and medical examiners. The criteria for making this determination varies from state to state and often from county to county.<sup>8</sup> The extent to which suicide has been underreported and/or misclassified on the death certificate is unknown, but estimates have been reported in the 10 percent to 50 percent range.

### Data Sources and Definitions

Mortality data by cause of death, age, race/ethnicity, sex, and county of residence were extracted from the CDHS Death Statistical Master Files for 1980 through 1998.

Suicide was defined using ICD-9 codes E950-E959, consistent with *Healthy People 2000*.<sup>1,4</sup> The determination of suicide requires that the death be established as both self-inflicted and intentional, and under California regulations, a known or suspected suicide must be reported to the coroner.

Population data by age, race/ethnicity, and sex used in the computation of mortality rates were provided by the Department of Finance, Demographic Research Unit.

### National Health Status Objectives

Objective 7.2 seeks to reduce suicide age-adjusted death rates to no more than 10.5 per 100,000 people by the year 2000. Special population target objectives have been established to reduce suicide death rates per 100,000 among:

Youth aged 15-19 to 8.2 (7.2a)

Men aged 20-34 to 21.4 (7.2b)

White men aged 65 and over to 39.2 (7.2c)

American Indians/Alaska Natives to 17.0 (7.2d)

## Summary of Progress for Suicide Trends in California

The suicide death rate for the total population has been trending downward since 1980 and the State has met this objective (10.5) since 1996 (Table 7-C).<sup>6</sup>

### Youth Aged 15-19

A special population subobjective was established for the suicide death rate among youth aged 15-19. The death rate for this group has fluctuated over the last two decades and the lack of a statistically significant trend made predictions impossible in the previous *Healthy California 2000 Midcourse Review*. However, the year 2000 objective for this group was achieved in 1997 and 1998.

### Males Aged 20-34

A special population subobjective was established for the suicide death rate among males aged 20-34. This subobjective has been achieved consistently since 1996 (Table 7-D).<sup>6</sup>

### White Males Aged 65 and over

Although significantly trending lower since 1985, the last and lowest data point in 1998 at 46.0 deaths per 100,000 for White males 65 years and over was still higher than the subobjective for this group (39.2) (Table 7-D).

Table 7-C  
SUICIDE DEATHS AND AGE-ADJUSTED DEATH RATES PER 100,000 POPULATION  
BY RACE/ETHNICITY  
California 1997-1998

Year	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	3,424	9.6	283	7.2	148	6.4	437	5.1	2,555	12.3
1998	3,215	8.9	232	5.7	164	7.0	422	4.6	2,396	11.5
Year 2000 Objective		10.5								

Table 7-D  
SUICIDE DEATHS AND DEATH RATES PER 100,000  
FOR SPECIAL POPULATION TARGET GROUPS  
California 1997-1998

Year	Youth Aged 15-19		Males Aged 20-34		White Males Aged 65 & Over	
	Number	Rate	Number	Rate	Number	Rate
1997	155	7.1	703	18.0	501	46.7
1998	142	6.3	623	16.1	498	46.0
Year 2000 Objective		8.2		21.4		39.2

## FIREARM-RELATED DEATHS

### Background

Deaths and injuries resulting from violent and abusive behaviors occur from the use of many types of weapons, especially firearms and knives. Given the high firearm to knife or other weapon ratio, the Healthy People 2000 program changed the Objective 7.3 from weapon-related to firearm-related deaths and changed the objective rate from 12.6 to 11.6 per 100,000 population.<sup>2</sup>

In the United States, suicides and homicides account for more than 90 percent of all firearm-related deaths.<sup>9</sup> Firearms are the second leading cause of injury-related deaths, surpassed only by motor-vehicle accidents, and remain a critical issue in public health promotion and prevention effort in the United States.<sup>10-12</sup> In 1990, firearm injuries cost over \$20.4 billion in direct medical costs and indirect costs 80 percent of which are paid by taxpayers.<sup>13</sup> Of particular concern are weapons-related deaths among America's young and minority populations. In California during 1999, the leading cause of death for Black males 15-34 years of age and the second leading cause of death for all males 15-34 years of age are firearm related.

A multi-dimensional approach to the complex and serious issue of violence in society and firearm use in many of those violent encounters is urgently called for by data presented in this priority area.<sup>14</sup> From 1990-1995 in California, six out of ten firearm homicides involved intimate partners or family members, three involved friends

or acquaintances, and one involved a stranger.<sup>15</sup> Firearms are a major cause of morbidity and mortality. During 1995, firearms caused 7,312 hospitalizations and 4,787 deaths among Californians.<sup>16</sup>

### Data Sources and Definitions

Mortality data by cause of death, age, race/ethnicity, sex, and county of residence were extracted from the CDHS Death Statistical Master Files for the years 1980 through 1998. Population data by age, race/ethnicity, and sex used in the computation of mortality rates were provided by the Department of Finance, Demographic Research Unit. Firearms-related deaths were defined using ICD-9 codes (E922.0-E922.3, E922.8-E922.9, E955.0-E955.4, E965.0-E965.4, E970, E985.0-E985.4).<sup>4</sup>

### National Health Status Objectives

Objective 7.3 was established to reduce firearm-related age-adjusted death rates to no more than 11.6 per 100,000 people by the year 2000. A special population target objective has been established to reduce firearm-related age-adjusted death rates among Blacks to no more than 30.0 deaths per 100,000 population (7.3a).

### Summary of Progress for Firearm-Related Death Trends

During 1998, a total of 3,333 Californians died as a result of firearm-related wounds. There has been a steady decrease in the firearm-related death rate since 1993.



California achieved the year 2000 national objective (11.6) for firearm-related deaths per 100,000 population in 1998 by reaching a low of 3,333 deaths and a rate of 10.3 (Table 7-E, Figure 7-C).<sup>6</sup>

## Blacks

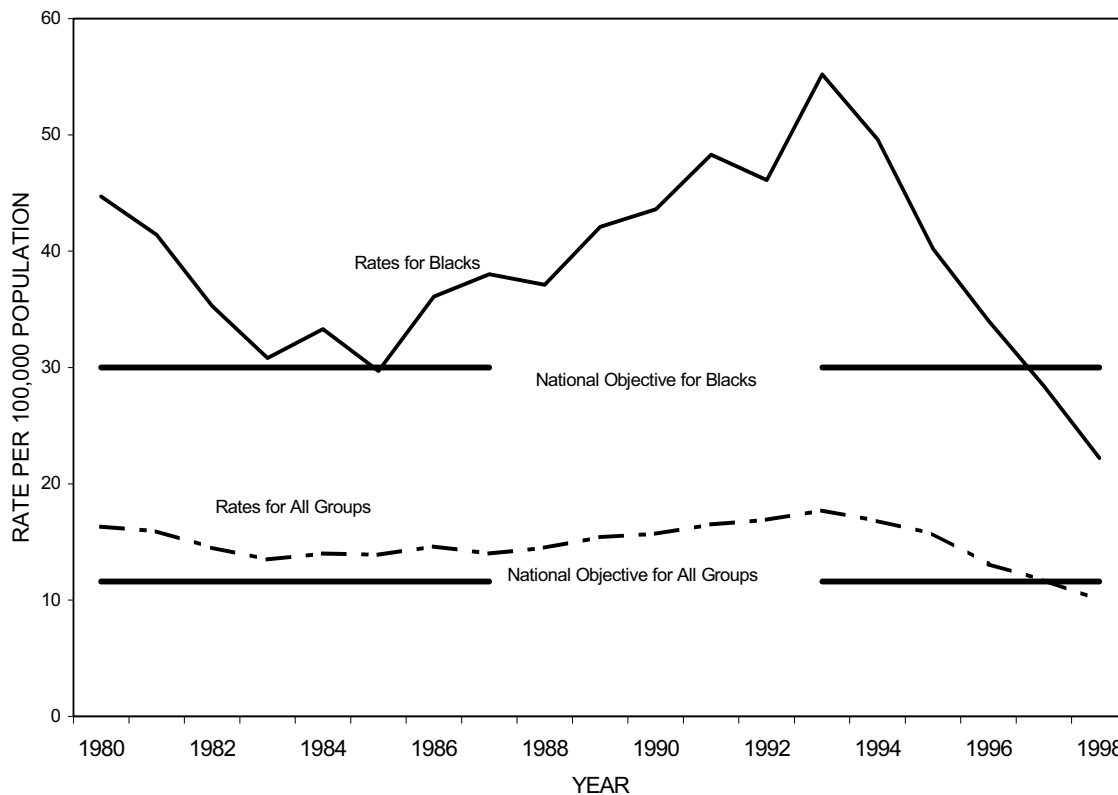
Firearm-related death rates among Blacks are significantly higher than rates

for other race/ethnic groups examined. The trend since 1993 in firearm-related death rates for Blacks also has been decreasing. California met the year 2000 national objective for this group (30.0) in 1997(29.9) and 1998 (23.6) (Table 7-E, Figure 7-C).<sup>6</sup>

Table 7-E  
FIREARM-RELATED DEATHS AND AGE-ADJUSTED DEATH RATES  
PER 100,000 POPULATION BY RACE/ETHNICITY  
California 1997-1998

Year	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	3,842	12.1	246	6.9	658	29.9	1,166	13.2	1,766	8.9
1998	3,333	10.3	202	5.3	522	23.6	994	10.9	1,614	8.0
Year 2000 Objective		11.6				30.0				

Figure 7-C  
FIREARM-RELATED AGE-ADJUSTED DEATH RATES  
California 1980-1998



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# Unintentional Injuries

## Contents

- 9.1 Unintentional Injury Deaths**
- 9.2 Unintentional Injury Hospitalizations**
- 9.3 Motor Vehicle Crash Deaths**
- 9.4 Fall-Related Deaths**
- 9.5 Drowning Deaths**
- 9.6 Residential Fire Deaths**

## UNINTENTIONAL INJURIES

### Background

Every year, millions of Americans are killed and disabled as a result of unintentional injuries. Unintentional injuries, also referred to as “accidents and adverse effects,” were the fifth leading cause of death in the United States during 1998, accounting for a total of 97,835 deaths.<sup>1</sup> Unintentional injuries were the leading cause of deaths among persons aged 1 through 44 years.<sup>1</sup> Males are 2.5 times more likely to die from unintentional injuries than females.<sup>1</sup> Unintentional injury death rates among Blacks are consistently higher than rates among Whites, and death rates among American Indians and Alaska Natives are nearly three times greater than rates for the general population.<sup>2,3</sup>

Nonfatal injuries also exact a toll. Each year about 2.6 million Americans are hospitalized for injuries and about 39.6 million people are treated in hospital emergency departments. The economic impact of these fatal and nonfatal unintentional injuries amounted to \$444.1 billion in 1996. This is about \$1,700 per capita, or about \$4,500 per household.<sup>4</sup> The five leading causes of unintentional injury deaths in California are motor vehicle crashes, poisoning, falls, fires and burns, and drowning.<sup>5</sup> Evidence suggests prevention activities such as the use of helmets, child seats, seatbelts, abstaining from alcohol and drug use, use of flotation devices in water activities, and carefully observing crosswalk precautions would substantially reduce the number and economic costs of unintentional injuries.

California accounts for over ten percent of all unintentional injury deaths nationwide, more than any other state. In July 1990, CDHS convened a State Injury Control Advisory Task Force to assist in establishing a comprehensive injury prevention and control program. The task force report, *Strategic Plan for Injury Prevention and Control in California, 1993-1997*, provides a policy framework and action priorities essential for achieving recommended short-term goals that would become the basis for developing comprehensive, multidisciplinary approaches to injury prevention and control in California.<sup>6</sup>

### Data Sources and Definitions

Data on unintentional injury deaths were extracted from the CDHS Death Statistical Master Files for 1997 through 1998 by place of residence. Previous reports prepared by the CDHS Epidemiology and Prevention for Injury Control Branch used data by place of occurrence, since occurrence data is useful in injury epidemiology to allow assessment of exposure to hazards regardless of the residence of the victim.<sup>7-9</sup> Unintentional injury hospitalization data were extracted from the California Office of Statewide Health Planning and Development nonconfidential Patient Discharge Data Files. The first year that these data were in a format that could be used to evaluate nonfatal injury hospitalizations among California residents was 1991.<sup>10</sup> The number of deaths and death rates per 100 million motor vehicle miles of travel, and deaths among motorcyclists and pedestrians, were provided by the California Highway Patrol, Statewide Integrated Traffic Records System.

Population data used in the computation of death rates were provided by the California Department of Finance, Demographic Research Unit.

Unintentional injury deaths were defined by ICD-9 codes E800-E949. Within this broad category, motor-vehicle crash deaths were defined by ICD-9 codes E810-E825; falls and fall-related injury deaths by codes E880-E888; drowning deaths by codes E830-E832, and E910; residential fire deaths by codes E890-E899; unintentional injury hospitalizations were defined using ICD-9-CM codes E800-E949.<sup>11</sup>

### National Health Status Objectives

Objective 9.1 seeks to reduce deaths caused by unintentional injuries to an age-adjusted death rate of no more than 29.3 per 100,000 people by the year 2000. Special population target objectives have been established to reduce unintentional injury age-adjusted death rates per 100,000 among:

American Indians/Alaska Natives to no more than 53.0	(9.1a)
Black males to no more than 51.9	(9.1b)
White males to no more than 42.9	(9.1c)

Objective 9.2 was established to reduce nonfatal unintentional injuries so that hospitalization rates for this condition are no more than 754.0 per 100,000 persons. A special population target objective for Black males of 856.0 per 100,000 (9.2a) was established.

Objective 9.3 was established to reduce deaths caused by motor-vehicle crashes to no more than 1.5 per 100 million vehicle miles traveled and 14.2 per 100,000 people by the year 2000.

Special population target objectives have been set to reduce motor-vehicle crash death rates per 100,000 among:

Children aged 14 and younger to no more than 4.4	(9.3a)
Youth aged 15-24 to no more than 26.8	(9.3b)
People aged 70 and older to no more than 20.0	(9.3c)
American Indians/Alaska Natives to no more than 32.0	(9.3d)
Motorcyclists to no more than .09	(9.3e)
Pedestrians to no more than 2.0	(9.3f)

Objective 9.4 seeks to reduce deaths from falls and fall-related injuries to an age-adjusted death rate no more than 2.3 per 100,000 people. Special population target objectives have been established to reduce fall-related deaths per 100,000 among:

People aged 65-84 to no more than 14.4	(9.4a)
People aged 85 and older to no more than 105.0	(9.4b)
Black men aged 30-69 to no more than 5.6	(9.4c)

Objective 9.5 was established to reduce drowning deaths to an age-adjusted death rate of no more than 1.3 per 100,000 people by the year 2000. Special population target objectives have been established to reduce drowning deaths per 100,000 among:

Children aged 4 and younger to no more than 2.3	(9.5a)
Men aged 15-34 to no more than 2.5	(9.5b)
Black males to no more than 3.6	(9.5c)

Objective 9.6 seeks to reduce residential fire age-adjusted death rates to no more than 1.2 per 100,000 by the year 2000. Special population objectives seek to reduce residential fire death rates among:

Children aged 4 and younger to  
no more than 3.3 (9.6a)

People aged 65 and older to  
no more than 3.3 (9.6b)

Black males to no more than 4.3 (9.6c)

Black females to no more than 2.6 (9.6d)

## UNINTENTIONAL INJURY DEATHS

### Summary of Progress for Unintentional Injury Death Trends in California

Unintentional deaths and death rates for California residents have been steadily declining over the past two decades and have met the healthy people objective established for this indicator since 1991 (28.5). Data for 1997 (23.8) and 1998 (22.9) (Table 9-A) show continuing declines in deaths and death rates indicating California's continued success in instituting appropriate safety measures and regulations detailed in the *Healthy California 2000 Midcourse Review*.<sup>12</sup>

#### Black Males

Blacks as a group tend to have the highest age-adjusted unintentional injury

death rates and Black males in particular had death rates above the subobjective set for them until 1996 (49.2), when California met this subobjective for Black males.<sup>12</sup> Rates for 1997 (42.9) and 1998 (43.1) represent further progress in exceeding the healthy people objective of 51.9 per 100,000 Black males.

#### White Males

White males are another special population subobjective set at 42.9 unintentional injury deaths per 100,000 White males. The objective for this group has been met since 1991 (41.1).<sup>12</sup> Data for 1997 (34.3) and 1998 (33.4) indicate further declines and continued progress for this group.

Table 9-A  
UNINTENTIONAL INJURY DEATHS AND AGE-ADJUSTED DEATH RATES  
PER 100,000 POPULATION BY RACE/ETHNICITY  
California 1997-1998

Year	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	8,762	23.8	688	16.9	701	29.7	2,104	23.5	5,253	24.4
1998	8,620	22.9	609	14.3	710	29.5	2,095	23.0	5,200	23.8
Year 2000 Objective		29.3								

## UNINTENTIONAL INJURY HOSPITALIZATIONS

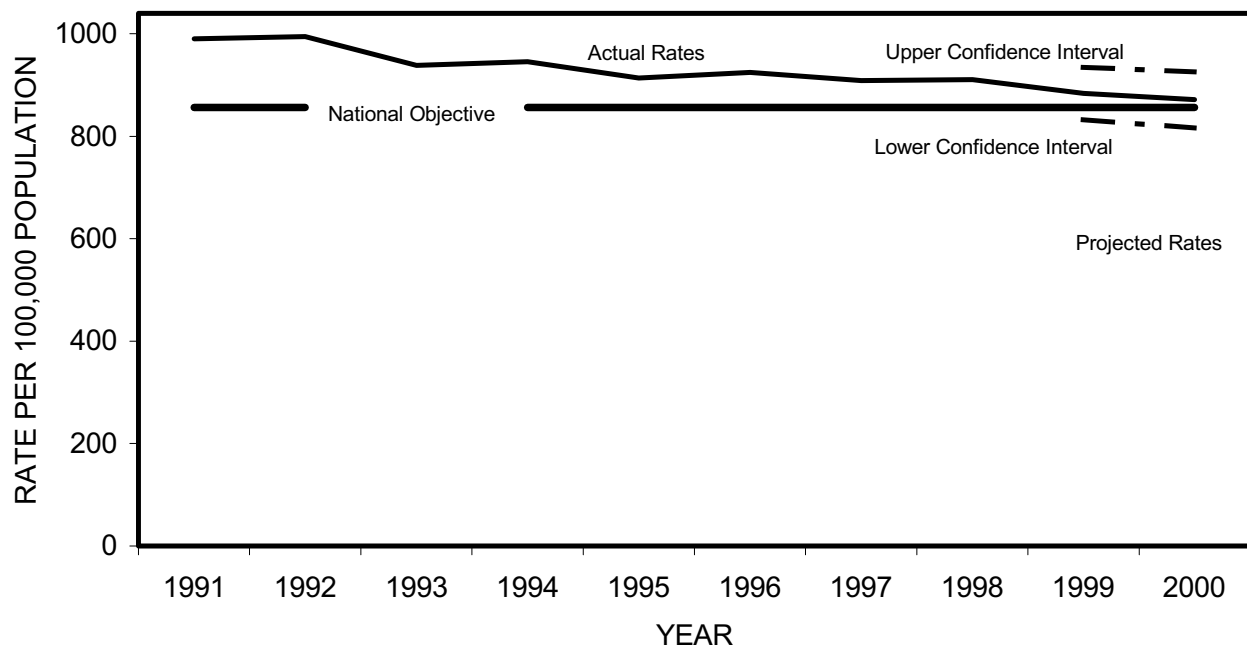
### Progress for Hospitalizations of Unintentional Injuries in California

Since 1991, the first year data were available to monitor this objective, no significant trend has developed and the unintentional injury hospitalization rates have been consistently above the objective of 754.0 for the total population.<sup>12</sup> The 1997 rate was 890.1 and the 1998 rate was 888.6, not a significant change from previous years.

### Black Males

A separate objective for the special population of Black males was set at the rate of 856.0. Their 1997 rate was 909.0 and their 1998 rate was 910.7, although this group has had a statistically significant downward trend since 1991 the objective will not be met.

Figure 9-A  
NONFATAL UNINTENTIONAL INJURY HOSPITALIZATIONS  
AMONG BLACK MALES  
California 1991-1998, Projected to 2000





## MOTOR VEHICLE CRASH DEATHS

### Progress on Motor Vehicle Crash Death Trends in California

Motor vehicle accidents are the leading cause of unintentional injury deaths among California residents. During 1998, a total of 3,564 California residents died as a result of motor vehicle crashes.<sup>5</sup> The downward trend in age-adjusted motor vehicle crash death rates is statistically significant and projections indicate that the California rate will be well below the national objective of 14.2 in the year 2000. The objective has been met since 1992.<sup>12</sup> Death rates from motor vehicle crashes in 1997 (10.9) and 1998 (10.6) show further declines and confirm the downward trend (Table 9-B). In addition to declines in population-based death rates, rates per 100 million vehicle miles traveled (VMT) declined significantly since 1980 and were below the established national objective in 1996.<sup>12</sup> The rates for 1997 (1.3) and 1998 (1.2) continued the downward trend well below the Healthy People target of 1.5. The VMT-based death rate provides a measure based on exposure to crash risk, not available in the population-based rates.

### Special Population Targets

Data for the special population targets indicate that California will meet all three objectives established for these at-risk groups.

### Adolescents Aged 14 and Under

Among children aged 14 and under, the rate of deaths due to motor vehicle crashes continued to decline with rates of 3.3 in 1997 and 3.2 in 1998 (Table 9-C). This objective has been met since 1996.<sup>12</sup>

### Youth Aged 15-24 Years

Among youth aged 15-24, the death rates continued to decline with rates of 18.4 in 1997 and 18.3 in 1998. The objective of 26.8 has been met since 1992 (Table 9-C).<sup>12</sup>

### Elderly Aged 70 and Over

Motor vehicle crash death rates among persons aged 70 and over declined in 1998 to match the objective of 20.0 deaths per 100,000 population in this age group (Table 9-C, Figure 9.3b).

### Motorcyclists

The number of deaths among motorcyclists declined to 0.6 per 100,000 population in 1998, well below the objective of 0.9.

### Pedestrians

Pedestrian deaths declined to 1.8 per 100,000 population in 1998 meeting the objective at 2.0.

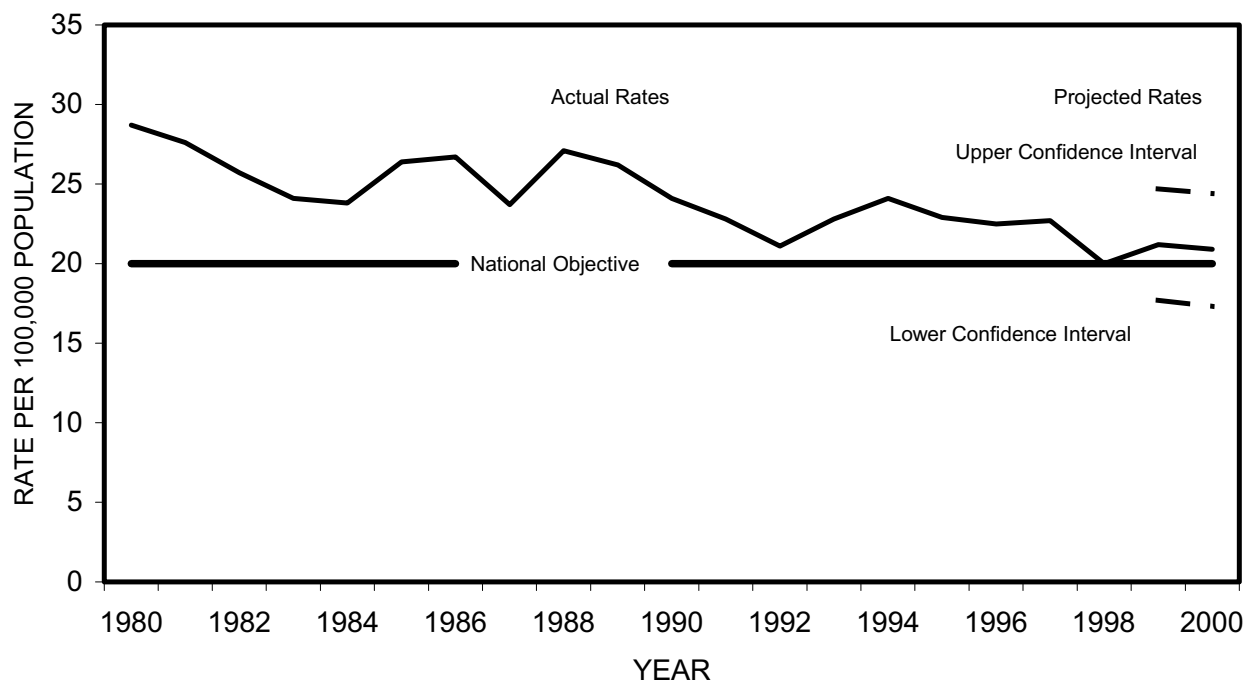
Table 9-B  
MOTOR VEHICLE CRASH DEATHS AND AGE-ADJUSTED DEATH RATES  
PER 100,000 POPULATION BY RACE/ETHNICITY  
California 1997-1998

Year	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	3,655	10.9	376	9.8	240	10.4	1,091	12.3	1,946	10.5
1998	3,564	10.6	336	8.3	254	11.0	1,084	12.1	1,890	10.3
Year 2000 Objective		14.2								

Table 9-C  
MOTOR VEHICLE CRASH DEATHS AND DEATH RATES  
PER 100,000 AMONG SPECIAL POPULATION TARGETS  
California 1997-1998

Year	Children 14 & Under		Youth 15-24		Elderly 70 & Over	
	Number	Rate	Number	Rate	Number	Rate
1997	261	3.3	789	18.4	575	22.7
1998	257	3.2	799	18.3	516	20.0
Year 2000 Objective		4.4		26.8		20.0

Figure 9-B  
MOTOR VEHICLE CRASH DEATH RATES  
AMONG THE ELDERLY 70+  
California 1980-1998, Projected to 2000



## FALL-RELATED DEATHS

### Trends in Fall-Related Deaths in California

Fall-related death rates for 1997 (2.1) and 1998 (2.1) indicate a slight increase from rates for 1993 to 1996, but they are still below the objective for this indicator set at 2.3 deaths per 100,000 population (Table 9-D). The objective has been met in California for fall-related deaths since 1988.<sup>12</sup>

Fall-related deaths occur with more frequency and at significantly higher rates among older persons. Approximately two-thirds of all fall-related deaths occurred among Californians aged 65 and over.

### Elderly Aged 65-84

Among persons aged 65-84, the fall-related death rate was 15.0 in 1997 and 15.8 for 1998. As with the overall population, these rates represent an increase from previous years and are higher than the objective of 14.4 deaths per 100,000 population in this age group (Table 9-E). California had met the fall-related death rate from 1988 to 1996 in a statistically significant downward trend reaching a low of 13.1.<sup>12</sup>

### Elderly Aged 85 and Over

The elderly aged 85 and over also experienced an increase in death rates for 1997 (99.1) and 1998 (100.2) but these higher rates remained below the objective of 105.0 deaths per 100,000 population in this age group (Table 9-E). California has met the objective for those 85 and over since 1986.<sup>12</sup>

### Black Males Aged 30-69

Black males aged 30-69 had significant drops in death rates from falls for 1997 (2.9) and 1998 (3.5), putting this group well below the objective of 5.6 deaths per 100,000 Black males aged 30-69 in California (Table 9-E).

Table 9-D  
FALL-RELATED DEATHS AND AGE-ADJUSTED DEATH RATES  
PER 100,000 POPULATION BY RACE/ETHNICITY  
California 1997-1998

Year	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	1,164	2.1	87	1.6	45	1.7	129	1.6	903	2.2
1998	1,227	2.1	96	1.7	56	2.0	154	1.9	921	2.2
Year 2000 Objective		2.3								

Table 9-E  
FALL-RELATED DEATHS AND DEATH RATES  
PER 100,000 AMONG SPECIAL POPULATION TARGETS  
California 1997-1998

Year	Persons Aged 65-84		Persons Aged 85 & Over		Black Males Aged 30-69	
	Number	Rate	Number	Rate	Number	Rate
1997	472	15.0	388	99.1	15	2.9
1998	503	15.8	407	100.2	18	3.5
Year 2000 Objective		14.4		105.0		5.6

Table 9-F  
DROWNING DEATHS AND AGE-ADJUSTED DEATH RATES  
PER 100,000 POPULATION BY RACE/ETHNICITY  
California 1997-1998

Year	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	455	1.3	62	1.6	37	1.6	115	1.1	235	1.3
1998	511	1.5	57	1.5	47	2.0	136	1.2	268	1.5
Year 2000 Objective		1.3								

## DROWNING DEATHS

### Progress for Trends in Drowning Deaths in California

Drowning death rates overall trend significantly downward in 1997 and 1998. As predicted in the *Healthy California 2000 Midcourse Review* the objective of 1.3 deaths per 100,000 population was reached in 1997. The rate went slightly higher at 1.5 in 1998, but California can now be considered having met the drowning objective for the total population (Table 9-F).<sup>12</sup>

### Children Aged 4 Years and Under

This group was predicted to meet the objective by the year 2000 although the objective had not been reached by 1996.<sup>12</sup> The added data for 1997 (2.8) and 1998 (3.0) indicate a further decline in the statistically significant downward trend since 1980 (Table 9-G). However, California will not meet the objective for this group.

### Males Aged 15-34 Years

Among males aged 15-34, drowning death rates are significantly declining and California first met the objective in 1994.<sup>12</sup> Death rates for 1997 (2.1) and 1998 (2.5) confirm the downward trend at and below the objective set at 2.5 per 100,000 males aged 15-34 since 1980 (Table 9-G).<sup>12</sup>

### Black Males

This group has met their objective in several previous years and data for 1997 (2.2) and 1998 (3.3) confirm a statistically significant downward trend below the objective set for this group at 3.6 deaths per 100,000 Black males (Table 9-G) since 1980.

Table 9-G  
DROWNING DEATHS AND DEATH RATES PER  
100,000 AMONG SPECIAL POPULATION TARGETS  
California 1997-1998

Year	Children Aged 4 & Under		Males Aged 15-34		Black Males	
	Number	Rate*	Number	Rate*	Number	Rate**
1997	77	2.8	108	2.1	25	2.2
1998	84	3.0	127	2.5	38	3.3
Year 2000 Objective		2.3		2.5		3.6

\* Age-specific death rate per 100,000 population.

\*\* Age-adjusted death rate per 100,000 population.

## RESIDENTIAL FIRE DEATHS

### Progress for Trends in Residential Fire Deaths in California

Total population residential fire death rates have been declining significantly for decades and this objective has been met in California since 1983.<sup>12</sup> The rates for 1997 (0.6) and 1998 (0.5) continue to be well below the objective of 1.2 deaths per 100,000 population.

#### Children Aged 4 and Under

Residential fire deaths for this group also have been on a statistically significant downward trend for decades. California has met the objective set for this group at 3.3 deaths per 100,000 children aged four and under in every year except one since 1980.<sup>12</sup> The death rates for this group in 1997 (1.1) and 1998 (0.5) continue the downward trend and the 1998 rate is the lowest ever for this group.

#### Elderly Aged 65+

Residential fire death rates for this group also have been gradually decreasing over the years. California has met this objective set at 3.3 deaths per 100,000 for this age group since 1986.<sup>12</sup> The rates for 1997 (2.4) and 1998 (2.8) are well below the objective.

#### Black Males

Residential fire death rates for Black males in California have met their objective of 4.3 deaths per 100,000 Black males since 1980. The rates for 1997 (1.4) and 1998 (1.0) are further

declines in the statistically significant downward trend.<sup>12</sup>

#### Black Females

Residential fire death rates for Black females also are declining significantly and have achieved their objective of 2.6 deaths per 100,000 Black females in all but two years since 1980. The rates for 1997 (2.0) and 1998 (1.1) are well below the objective.<sup>12</sup>

Table 9-H  
RESIDENTIAL FIRE DEATHS AND AGE-ADJUSTED DEATH RATES  
PER 100,000 POPULATION BY RACE/ETHNICITY  
California 1997-1998

Year	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	242	0.6	16	0.4*	40	1.6	34	0.3	151	0.7
1998	223	0.5	9	0.2*	25	1.0	44	0.4	144	0.6
Year 2000 Objective		1.2								

\*Rate is unreliable, Relative Standard Error greater than 23 percent.

Table 9-I  
RESIDENTIAL FIRE DEATHS AND DEATH RATES PER  
100,000 FOR SPECIAL POPULATION TARGET GROUPS  
California 1997-1998

Year	Children Aged 4 & Under		Elderly Aged 65+		Black Males		Black Females	
	Number	Rate*	Number	Rate*	Number	Rate**	Number	Rate**
1997	30	1.1	86	2.4	16	1.4	24	2.0
1998	13	0.5	99	2.8	12	1.0	13	1.1
Year 2000 Objective		3.3		3.3		4.3		2.6

\* Age-specific death rate per 100,000 population.

\*\* Age-adjusted death rate per 100,000 population.

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# Occupational Safety and Health

## Contents

### 10.1 Work-Related Injury Deaths

## OCCUPATIONAL SAFETY AND HEALTH

### Background

The Occupational Safety and Health Act of 1970 was enacted “to assure so far as possible, every working man and woman in the Nation safe and healthful working conditions...”<sup>1</sup> Deaths from injuries resulting from occupational exposures pose a major public health problem, and a number of studies have examined the extent of work-related injury deaths occurring in the United States.<sup>2-5</sup> The cost of work-related injuries and fatalities is estimated to be greater than \$121 billion annually.<sup>6</sup> Since 1991 California has worked with the National Institute for Occupational Safety and Health in implementing a Fatality Assessment and Control Evaluation Program to investigate traumatic occupational fatalities.<sup>7</sup>

Typically the leading causes of occupational injury death reported are: motor-vehicle crashes; homicides; electrocutions; accidents; falls; machine-related, and being struck by falling objects. Mining, construction, agriculture, and transportation were the industries experiencing the highest occupational death rates.<sup>6</sup> Males account for 90 percent of the fatal occupational injuries reported in California.

### Data Sources and Definitions

Death certificate data were extracted from the CDHS Death Statistical Master Files for 1997 through 1998 for those records identified as having a “yes” response to the “Injured at Work” item and an ICD-9 external cause of death code E800-E999.<sup>8</sup> Denominator data used in the computation of work-related mortality rates were provided by the California Employment Development Department.<sup>9</sup>

### National Health Status Objectives

Objective 10.1 was established to reduce deaths from work-related injuries to no more than 4 per 100,000 full-time workers.

### Progress for Work-Related Injury Death Trends in California

In 1980 the occupational death rate of 8.4 per 100,000 California workers was double the year 2000 objective of 4.0 deaths per 100,000 workers. Since then a statistically significant downward trend met the objective in 1992. The rates for 1997 (3.7) and 1998 (3.3) are a continuation of the downward trend and are below the objective. The 1998 rate is the lowest recorded since 1980.

Table 10  
WORK-RELATED INJURY DEATHS  
DEATH RATES PER 100,000 FULL-TIME WORKERS  
California 1997-1998

Year	Number	Rate
1997	550	3.7
1998	507	3.3
Year 2000 Objective		4.0

## REFERENCES

1. Occupational Safety and Health Act of 1970, P.L. 91- 596. USCA, Title 29, Section 651 (b).
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9. For more information see: California Department of Employment Development at [http://www.calmis.ca.gov/FILE/LFHIST/CAL\\$HLE.TXT](http://www.calmis.ca.gov/FILE/LFHIST/CAL$HLE.TXT)

# Environmental Health

## Contents

**11.1 Asthma-Related Hospitalizations**

**11.5 Air Quality**

## ASTHMA-RELATED HOSPITALIZATIONS

### Background

Asthma is a serious chronic disease that affects 14-15 million Americans with related costs exceeding \$6 billion annually.<sup>1</sup>

The etiology of asthma is multifactorial, with possible genetic, infectious, immunologic, socioeconomic, and psychosocial influences. Environmental factors, such as ozone, particulate matter, and other air pollutants are associated with increased risk of morbidity among people with asthma. In many Western countries, including the United States, the prevalence of asthma morbidity and mortality has increased over the past decade. Asthma disproportionately affects children, minorities, and people who live in inner city areas. Although every asthma death should be preventable, asthma resulted in 5,438 deaths in 1998 nationally.<sup>2</sup> There is a continuing need for research to determine the underlying etiology of asthma in order to improve prevention and treatment. The role of environmental pollutants in the induction of disease has not been well established; however, certain pollutants are strongly associated with exacerbation of disease. The severity of the problem depends on pollutant concentrations and duration of exposure. The effects are mitigated by a person's susceptibility to pollutant toxic effects, which may be influenced by age, health, diet, and lifestyle habits such as smoking and exercise.

Air pollution may adversely affect people with a range of respiratory diseases including: bronchial asthma, chronic bronchitis, emphysema, and lung

cancer. Other health consequences include eye irritation, weakened immune system, and premature lung tissue aging.

According to the U.S. Environmental Protection Agency (USEPA), approximately 62 million persons in the United States lived in counties exceeding national ambient air quality standards in 1999.<sup>3</sup> The annual health costs of exposure to the most serious air pollutants have been estimated to range from \$40 to \$50 billion nationally.<sup>4</sup>

### Data Sources and Definitions

Hospital discharge data provided by the California Office of Statewide Health Planning and Development were used to evaluate California's progress in achieving the health status objective for reductions in asthma morbidity. Asthma-related hospitalizations were extracted for California residents for the period 1997-1998 using ICD-9-CM code 493, consistent with *Healthy People 2000*.<sup>5,6</sup> Rates per 100,000 hospitalizations were calculated for the total patient population by race/ethnicity, and for patients aged 14 and under. USEPA data were used to determine those California counties where criteria pollutants exceeded their standards. USEPA routinely obtains pollutant measures with fixed and temporary instruments through state and local government agencies and publishes the results in the annual *National Air Quality and Emissions Trends Report*.<sup>7</sup> Population data were provided by the California Department of Finance, Demographic Research Unit.

## National Health Status Objectives

Objective 11.1 seeks to reduce asthma morbidity, as measured by a reduction in asthma hospitalizations, to no more than 160 per 100,000 people. Special population target objectives have been established to reduce hospitalizations among Blacks and other non-Whites to no more than 265 per 100,000 (objective 11.1a), among children ages 14 and younger to no more than 225 per 100,000 (objective 11.1b), and among females to no more than 183 per 100,000 (objective 11.1c).

Due to the recent availability of air quality data from the USEPA, Objective 11.5 is included in this report as a new addition. Objective 11.5 seeks to reduce human exposure to criteria air pollutants, as measured by an increase to at least 85 percent in the proportion of people who live in counties that have not exceeded any USEPA standard for air quality in the previous 12 months. Those criteria air pollutants include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate, and lead.

## Progress for Asthma Hospitalization Trends in California

California's asthma hospitalization rate has exceeded the Healthy People 2000 objective of 160.0 hospitalizations for asthma per 100,000 population set for this indicator since 1989. The statistically significant downward trend was continued in 1997 (120.5) and 1998 (113.3), below the objective (Table 11).

## Asian/Other

The same objective (no more than 265.0 asthma hospitalizations per 100,000) was set for all minority subobjectives. The Asian/Other group has met the objective since 1987, the first year asthma hospitalizations were available. The 1998 rate of 90.4 was the lowest rate recorded for this group (Table 11).<sup>8</sup>

## Hispanics

Hispanic asthma hospitalization rates have varied from year to year without a significant trend up or down, but have consistently been about half of the objective since 1987; therefore, California has met this objective.<sup>8</sup> The rates for 1997 (113.8) and 1998 (100.2) are among the lowest recorded rates for this group (Table 11).

## Blacks

In contrast to the other minority groups in California, Blacks have had asthma hospitalization rates much higher than other minority groups. Although the rates are part of a statistically significant downward trend, Blacks will not meet the objective of no more than 265.0 per 100,000 despite significant progress in decreasing asthma hospitalizations for this group.<sup>8</sup> The 1998 rate of 330.2 was the lowest rate recorded since 1987 (Table 11).

## Children Aged 14 and Under

This adolescent group has had a fluctuating trend since 1987. The objective set for this group at 225.0 asthma hospitalizations per 100,000 children aged 14 and under has been met in 6 years out of the 12-year period examined. The rates for 1997 (211.4) and 1998 (181.2) are among the lowest rates recorded for this group.<sup>8</sup>

## Females

This special population subobjective also has a statistically significant downward trend in asthma hospitalization rates. The objective set at 183.0 asthma-related hospitalizations per 100,000 females has been met since 1989. The rates for 1997 (136.6) and 1998 (130.5) are a continuation of the decline and are well below the objective.<sup>8</sup>

## Progress for Air Quality Trends in California Counties

Air pollution data collected and interpreted by the USEPA in 1997 and 1998 indicate far less than the objective of 85 percent of the State's population live in counties meeting USEPA air quality standards. In 1997 the percentage improved to 51.5 percent, but in 1998 only 16.2 percent of the State's population lived in counties meeting USEPA standards, therefore this objective will not be met.

Table 11  
ASTHMA RELATED HOSPITALIZATIONS PER 100,000 POPULATION  
BY RACE/ETHNICITY  
California 1997-1998

YEAR	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	39,707	120.5	3,645	96.3	8,400	362.8	10,971	113.8	16,474	95.7
1998	37,953	113.3	3,547	90.4	7,761	330.2	9,957	100.2	16,381	94.8
Year 2000 Objective		160.0		265.0		265.0		265.0		160.0

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- U.S. Environmental Protection Agency *Latest Findings on National Air Quality: 1999 Status and Trends. Office of Air Quality Planning and Standards*, Research Triangle Park, NC. August 2000 at <http://www.epa.gov/ebtpages/airairquanonattainment.html>
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# Oral Health

## Contents

### 13.7 Oral Cancer Deaths

## ORAL CANCER DEATHS

### Background

In the United States during 1998 there were approximately 30,300 new cases of cancers of oral cavity and pharynx, and 7,965 deaths.<sup>1,2</sup> Although more deaths occur annually as a result of oral cancers than as a result of cervical cancers, oral cancer was not included in the cancer priority area of *Healthy People 2000*, but is covered under the Health Status Objectives in the Oral Health priority area.

The five-year survival rates for oral and pharyngeal cancers vary considerably, depending on the site, but the overall survival rate for patients is about 54 percent.<sup>3</sup> About 75 percent of these cancers have been attributed to tobacco and alcohol use. Due to an increase in female oral cancer incidence, the ratio of male to female incidence has narrowed recently from 6 to 1 male to female cases 50 years ago to 2 to 1 for males versus females.<sup>2</sup> This increase in female cases is largely a result of changing risk behaviors in women such as increased smoking prevalence. Ninety-five percent of oral cancers occur among persons over the age of 40. The average age at diagnosis is 60 years.<sup>2</sup> Nationally during the period 1981-1997 the rates of oral cancers have declined.<sup>3</sup>

National efforts to reduce morbidity and mortality associated with oral cancer are focused on two areas: primary prevention and early detection. Persons at high risk for the disease are more likely to visit a physician than a dentist; physicians actually may be less likely than dentists to perform an oral cancer examination on such patients.

Primary-care providers must assume more responsibility for counseling patients about behaviors that put them at risk for developing oral cancer, examining patients who are at high risk for developing the disease because of tobacco use or excessive alcohol consumption, and referring patients to an appropriate specialist for management of a suspicious oral lesion. Comprehensive education of medical and dental practitioners in diagnosing and promptly managing early lesions could facilitate the multidisciplinary collaboration necessary to detect oral cancer at its earliest stages. Because of the public's lack of knowledge about the risk factors for oral cancer and because this disease can often be detected in its early stages, the public's awareness of oral cancer must also be increased.<sup>3</sup>

### Data Sources and Definitions

Mortality data were extracted from the CDHS Death Statistical Master Files for 1997-1998 by place of residence, and tabulated by age, by race/ethnicity, and by sex. Population data used in the calculation of death rates were obtained from the California Department of Finance, Demographic Research Unit.

Cancers of the oral cavity and pharynx are defined using ICD-9 codes 140-149, consistent with *Healthy People 2000*.<sup>4,5</sup>

## National Health Status Objectives

Objective 13.7 seeks to reduce deaths due to cancer of the oral cavity and pharynx to no more than 10.5 per 100,000 men aged 45 through 74 and 4.1 per 100,000 women aged 45 through 74. Special population target objectives have been established to reduce oral cancer deaths in Black males aged 45-74 to 26 deaths per 100,000 (Objective 13.7a) and in Black females aged 45-74 to 6.9 deaths per 100,000 (Objective 13.7b).

## Progress for Oral Cancer Mortality Trends in California

Although no objectives were set for the total population aged 45 through 74 and the overall four race/ethnic groups, their numbers of deaths and age-specific death rates are displayed in Table 13-A for analysis.

## Males Aged 45 to 74 Years

Males, as with the total population, have experienced a statistically significant downward trend in oral cancer deaths and death rates since 1980. California first met the Healthy People objective of 10.5 deaths per 100,000 males aged 45 to 74 in 1994 (10.2).<sup>6</sup> The rates for 1997 (8.7) and 1998 (8.9) are the lowest rates achieved for this group and are well below the objective of 10.5.

## Females Aged 45 to 74 Years

Females in this age group also have experienced a statistically significant downward trend in oral cancer deaths and death rates. California has met the Healthy People objective set at 4.1 deaths per 100,000 females 45 to 74 years of age since 1996 (3.7).<sup>6</sup> The rates for 1997 (3.6) and 1998 (3.6) indicate further progress for this group.

Table 13-A  
ORAL CANCER DEATHS AND DEATH RATES PER 100,000 POPULATION  
FOR PERSONS AGED 45-74, BY RACE/ETHNICITY  
California 1997-1998

YEAR	Total		Asian/Other		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	507	6.1	57	6.1	54	10.4	35	2.3	360	6.7
1998	530	6.1	52	5.3	41	7.7	43	2.7	393	7.2

TABLE 13-B  
ORAL CANCER DEATHS AND DEATH RATES PER 100,000  
FOR SPECIAL POPULATION TARGETS AGED 45-74  
California 1997-1998

Year	Male		Female		Black Males		Black Females	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	350	8.7	157	3.6	39	16.3	15	5.4
1998	371	8.9	159	3.6	25	10.1	16	5.5
Year 2000 Objective		10.5		4.1		26.0		6.9

## **Black Males**

This group also has experienced a statistically significant downward trend over the last two decades for oral cancer deaths. California has met the objective set for Black males at 26.0 oral cancer deaths per 100,000 Black males in every year since 1984 except for 1992 (27.4).<sup>6</sup> The rate for 1998 (10.1) is the lowest reported for this group and represents substantial progress in prevention of oral cancer deaths among black males in California (Table 13-B).

## **Black Females**

Black females also have experienced a statistically significant downward trend in the last two decades. California has met the oral cancer objective for Black females in seven years since 1980 with reliable rates.<sup>6</sup> The rates for 1997 (5.4) and 1998 (5.5) are among the lowest recorded for this group and are well below the national objective set for Black females at 6.9 deaths per 100,000 Black females (Table 13-B).

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# Maternal And Infant Health

## Contents

- 14.1 Infant Mortality**
- 14.2 Fetal Deaths**
- 14.3 Maternal Mortality**
- 14.5 Low and Very Low Birth Weight**
- 14.8 Cesarean Births**
- 14.11 Prenatal Care**

## INFANT MORTALITY

### Background

In the United States, there were 3,957,829 million babies born during 1999; 16.8 percent of all pregnant women did not receive prenatal care in their first trimester.<sup>1</sup>

National data indicate that gains have been made in achieving maternal and infant health objectives for 8 out of 17 established in *Healthy People 2000*. For many of the subobjectives addressing specific targets, such as reductions in infant mortality rates among Blacks and among Native Americans, progress has been less rapid.<sup>2</sup>

During 1999, there were 518,073 live births among California residents that accounted for 13.1 percent of the nation's live births, more than any other state.<sup>1,3</sup> Substantial gains in maternal and infant health promotion and risk reduction have been made during the past decade, concurrent with the development of regionalized perinatal care programs and the collection of data necessary for assessing public health trends among this growing and diverse population. The publication *Maternal and Child Health Plan for the Year 2000 Objectives in 1991 and Delivering the Future: Recommendations from the AB 99 Steering Committee Regarding Health Care for Women, Children, and Adolescents in California in 1992* are representative of California's goals and objectives for establishing needs-based health care planning and the implementation of a coordinated system of health care delivery.<sup>4,5</sup>

The report, *African-American Babies are Dying: A Call to Action*, prepared jointly by the CDHS and the California Black Infant Health Leadership Committee, specifically focuses on projects funded by the State to address the health status and needs of Black women and their infants.<sup>6</sup>

### Data Sources and Definitions

Data used to assess objectives in this priority area were extracted from the California Birth Cohort files, which consist of linked birth and infant death records developed cooperatively by the CDHS Maternal and Child Health Branch and the Office of Vital Records and Statistics.<sup>7,8</sup> The qualifications and limitations of these data are discussed elsewhere.<sup>9</sup>

An infant death is defined as a death occurring in the first year of life; a neonatal death is defined as a death occurring during the first 27 days of life; and a postneonatal death is defined as a death occurring between the 28<sup>th</sup> day and the end of the first year of life.<sup>10</sup>

Data used in the calculation of rates are for California residents. Infant, neonatal, and postneonatal death rates per 1,000 live births are calculated by dividing the number of reported deaths by the number of reported live births, then multiplying by 1,000. Causes of death are defined according to International Classification of Diseases, Ninth Revision (ICD-9).<sup>11</sup>

## **National Health Status Objectives**

National Health Status Objective 14.1 seeks to reduce the infant mortality rate to no more than 7.0 per 1,000 live births by the year 2000. Special population target objectives are:

to reduce Black infant mortality rates to no more than 11.0 per 1,000 live births (14.1a)

to reduce American Indians/Alaska Native infant mortality rates to no more than 8.5 per 1,000 live births (14.1b)

to reduce neonatal mortality rates to no more than 4.5 per 1,000 live births (14.1d)

to reduce neonatal mortality rates among Blacks to no more than 7.0 per 1,000 live births (14.1e)

to reduce postneonatal mortality rates to no more than 2.5 per 1,000 live births (14.1g)

to reduce postneonatal mortality rates among Blacks to no more than 4.0 per 1,000 live births (14.1h)

to reduce postneonatal mortality rates among American Indians/Alaska Natives to no more than 4.0 per 1,000 live births (14.1i)

## **Progress in Infant Mortality Trends in California**

During 1997, a total of 3,152 infant deaths were reported among 527,282 California resident births (Table 14-A). Major causes of infant mortality were: certain conditions originating in the perinatal period, especially maternal complications and complications of labor and delivery; congenital anomalies; Sudden Infant Death Syndrome; Respiratory Distress Syndrome and other respiratory conditions; and disorders relating to short gestation and unspecified low birth weight.<sup>10</sup>

The infant mortality rate has declined significantly for Californians since 1980. The 1995 through 1997 rates of 6.4, 5.9, and 6.0 per 1,000 live births met the year 2000 objective (Table 14-A).

## **Black Infant Mortality**

Examined by race/ethnicity of the mother, the infant mortality rate for Blacks was significantly higher than that of any other race/ethnic group and over twice the rate of Whites during 1997 (Table 14-A). The infant death rate among Blacks has declined from 20.5 per 1,000 live births in 1980 to a low of 12.4 in 1996.<sup>12</sup> The national health objective for the Black infant mortality rate will not be met.

## **American Indian/Alaska Native Infant Mortality**

The rate for American Indians/ Alaska Natives was also significantly higher than rates for Hispanics, Whites, and Asian/Pacific Islanders but did meet the objective of no more than 8.5 infant deaths per 1,000 live births in 1996 (6.8) and 1997 (8.1)(Table 14-A).



### Progress for Neonatal Mortality Trends in California

Of the 3,152 infant deaths reported among Californians during 1997, over 60 percent occurred in the first 27 days of life (Table 14-B). Leading causes of neonatal mortality include congenital anomalies, prematurity, respiratory conditions, complications of labor and delivery, and other maternal conditions. The neonatal mortality rate significantly declined from 1980 to 1997, reaching a low of 3.9 deaths per 1,000 live births in 1996.<sup>12</sup> The California neonatal objective of 4.5 deaths per 1,000 live births has

been met since 1992. The rates for 1995 (4.1), 1996 (3.9) and 1997 (4.1) indicate further progress below the objective (Table 14-B).

### Black Neonatal Mortality

The neonatal mortality rate for Blacks declined significantly from 13.8 in 1980 to a low of 8.0 in 1996 although it increased slightly to 9.1 in 1997. The objective for this group will not be met. Black neonatal mortality continues to be significantly higher than those for other race/ethnic groups examined (Table 14-B).

Table 14-A  
INFANT MORTALITY RATE PER 1,000 LIVE BIRTHS  
BY RACE/ETHNICITY OF MOTHER  
California 1995-1997

YEAR	Total		Asian/PI		Black		Hispanic		Native American		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1995	3,521	6.4	289	5.1	530	13.5	1,531	6.0	24	8.8	1,117	5.7
1996	3,169	5.9	278	4.9	458	12.4	1,408	5.5	18	6.8	974	5.3
1997	3,152	6.0	267	4.7	477	13.3	1,412	5.7	21	8.1	947	5.3
Year 2000 Objective		7.0				11.0				8.5		

Table 14-B  
NEONATAL MORTALITY RATE BY 1,000 LIVE BIRTHS  
NEONATAL MORTALITY BY RACE/ETHNICITY OF MOTHER  
California 1995-1997

YEAR	Total		Asian/PI		Black		Hispanic		Native American		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1995	2,254	4.1	190	3.3	329	8.4	1,011	4.0	11	4.0*	688	3.5
1996	2,110	3.9	187	3.3	295	8.0	947	3.7	11	4.2*	640	3.5
1997	2,140	4.1	170	3.0	327	9.1	980	3.9	9	3.5*	634	3.6
Year 2000 Objective		4.5				7.0						

\* Rate is unreliable, Relative Standard Error is greater than or equal to 23 percent.

## Progress on Postneonatal Mortality Trends in California

Postneonatal mortality rates also declined significantly from 1980 to 1997.<sup>12</sup> The Healthy People postneonatal objective of no more than 2.5 deaths per 1,000 live births has been met since 1994. The rates for 1995 (2.3), 1996 (2.0) and 1997 (1.9) indicate further progress below objective (Table 14-C).

## Black Postneonatal Mortality

Postneonatal mortality for Blacks showed a significantly declining trend in rates and achieved the lowest rate in 1997 at 4.2 deaths per 1,000 live births approaching but not meeting the objective of 4.0 (Table 14-C).<sup>12</sup>

## American Indian/Alaska Natives

Data for American Indians/Alaska Natives indicate that trends in postneonatal death rates were not statistically significant.<sup>12</sup> The numbers of postneonatal deaths for this group were often small and resulted in unreliable rates (Table 14-C).

Table 14-C  
POSTNEONATAL MORTALITY PER 1,000 LIVE BIRTHS  
BY RACE/ETHNICITY OF MOTHER  
California 1995-1997

YEAR	Total		Asian/PI		Black		Hispanic		Native American		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1995	1,267	2.3	99	1.7	201	5.1	520	2.1	13	4.8*	429	2.2
1996	1,059	2.0	91	1.6	163	4.4	461	1.8	7	2.7*	334	1.8
1997	1,012	1.9	97	1.7	150	4.2	432	1.7	12	4.7*	313	1.8
Year 2000 Objective		2.5				4.0				4.0		

\* Rate is unreliable, Relative Standard Error is greater than or equal to 23 percent.

## FETAL DEATHS

### Background

Between 1987 and 1997, the fetal death rate in the United States declined from 7.6 to 6.8 per 1,000 live births.<sup>2,13</sup> Although the completeness of reporting fetal deaths has been questioned, attempts have been made at the national level to improve reporting.<sup>14,15</sup> Fetal deaths can be associated with maternal diabetic complications of pregnancy.<sup>16</sup>

### Data Sources and Definitions

Data from the California Birth Cohort Files were used in the analysis of fetal deaths among California residents for the period 1995 through 1997.

A fetal death is defined as a death prior to the complete expulsion or extraction from its mother of a product of conception, after 20 or more weeks of gestation. The death is indicated by the fact that after separation, the fetus does not breathe or show any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of the voluntary muscles.<sup>10</sup>

The fetal death rate is calculated by dividing the number of reported fetal deaths by the total number of live births plus fetal deaths (total births), and multiplying by 1,000.

### National Health Status Objectives

Health Status Objective 14.2 seeks to reduce the fetal death rate (20 or more weeks of gestation) to no more than 5.0 deaths per 1,000 total births.

Subobjective 14.2a addresses the reductions in the fetal death rate among Blacks to no more than 7.5 deaths per 1,000 total births by the year 2000.

### Fetal Death Trends in California

The fetal death rate has declined significantly since 1980, however, the addition of 1995 through 1997 data indicate this objective will not be met (Table 14-D, Figure 14.2).<sup>12</sup>

### Black Fetal Deaths

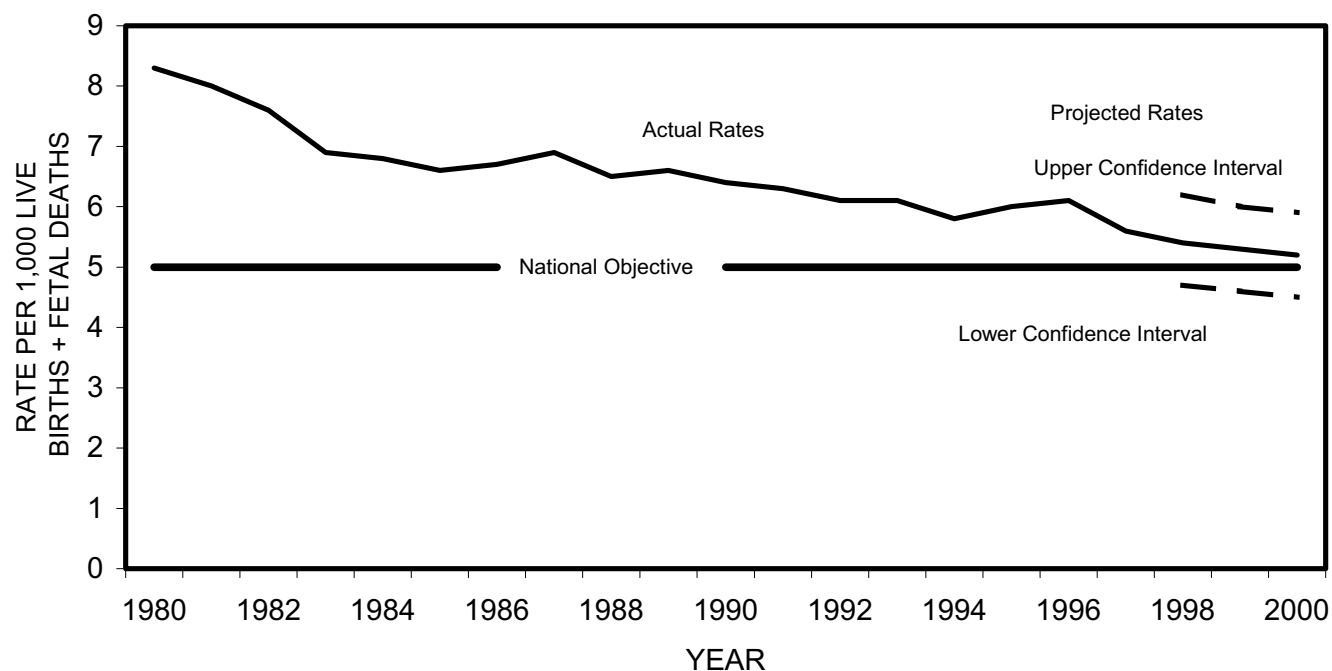
The Black fetal death rate has also declined significantly. The subobjective for Blacks will not be met. The rate among Blacks continues to be higher than any other race/ethnic group examined (Table 14-D).<sup>12</sup>

Table 14-D  
FETAL DEATHS AND RATES PER 1,000 BIRTHS BY RACE/ETHNICITY OF MOTHER  
California 1995-1997

Total			Asian/PI		Black		Hispanic		Native American		White	
YEAR	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1995	3,330	6.0	295	5.1	446	11.3	1,427	5.6	12	4.4*	1,107	5.6
1996	3,282	6.1	318	5.6	381	10.2	1,483	5.8	14	5.3	1,036	5.6
1997	2,962	5.6	272	4.8	374	10.3	1,316	5.3	10	3.9*	951	5.3
Year 2000 Objective		5.0				7.5						

\* Rate is unreliable, Relative Standard Error is greater than or equal to 23 percent.

Figure 14.2  
FETAL DEATH RATES  
California 1980-1997, Projected to 2000



## MATERNAL MORTALITY

### Background

Maternal mortality, along with infant mortality, is recognized as a basic public health indicator, although the magnitude of the problem is often understated on the basis of vital statistics data. National vital statistics show a rate of 7.1 maternal deaths per 100,000 live births in 1998, compared with a rate of 9.2 reported for 1980.<sup>17,18</sup> Independent studies using case detection methods and multiple data sources have reported higher rates, up to 14.1 per 100,000 live births.<sup>19</sup> Leading causes of maternal death have been identified as pulmonary embolism, hypertension in pregnancy, antepartum hemorrhage, cerebrovascular accidents, and anesthesia related complications.<sup>20,21</sup> Improvement in maternal mortality rates can be addressed with early access to prenatal care.<sup>22</sup>

### Data Sources and Definitions

Data used to evaluate maternal mortality were extracted from the CDHS Birth and Death Statistical Master Files. A maternal death is defined as a female death resulting from complications of pregnancy, childbirth, and the puerperium (ICD-9 codes 630-676).<sup>10,11</sup>

Maternal mortality rates were calculated by dividing the number of maternal deaths among California residents by the number of live births, multiplied by 100,000.

### National Health Status Objectives

Healthy People 2000 objective 14.3 seeks to reduce the maternal mortality

rate to no more than 3.3 deaths per 100,000 live births. Special population target objective 14.3a aims at reducing the maternal mortality rate among Blacks to no more than 5.0 deaths per 100,000 by the year 2000.

### Progress for Maternal Mortality Trends in California

The maternal mortality rates for California mothers overall fluctuate and show no significant trend up or down since 1980.<sup>12</sup> Rates for the four major race/ethnic groups, in addition to fluctuating, consist of relatively small numbers of deaths. As a result, the rates are often unreliable. The maternal mortality rate for 1997 was 8.6 and the rate for 1998 was 6.5 per 100,000 live births. Since the objective for this group is no more than 3.3 maternal deaths per 100,000 live births, California will not meet this objective (Table 14-E).

### Black Maternal Mortality

The maternal mortality rate among Blacks also showed a large amount of variation from year to year. These rates are statistically unreliable for trend analysis purposes. However, since 1980 when reliable rates among Blacks are available they are generally much higher than other race/ethnic groups and always far above the objective set for this group at no more than 5.0 maternal deaths per 100,000 live births (Table 14-E).<sup>12</sup>

Table 14-E  
MATERNAL MORTALITY AND RATES PER 100,000 LIVE BIRTHS  
BY RACE/ETHNICITY  
California 1997-1998

YEAR	Total		Asian/PI		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	45	8.6	5	8.8*	11	30.6*	19	7.6	10	5.6*
1998	34	6.5	3	5.4*	6	17.0*	15	6.1	10	5.7*
Year 2000 Objective		3.3				5.0				

\* Rate is unreliable, Relative Standard Error greater than or equal to 23 percent.

## LOW AND VERY LOW BIRTH WEIGHT

### Background

The incidence of low birth weight (LBW) and very low birth weight (VLBW) are monitored nationally because birth weight is the single most important determinant of an infant's chances of survival and healthy growth and development. The national rates have risen gradually from 1980 (6.8 percent LBW; 1.1 percent VLBW) to 1998 (7.6 percent LBW; 1.4 percent VLBW) due to the increase in the number of multiple births.<sup>1,12,24</sup>

Substantial disparities in LBW rates exist between Blacks and other race/ethnic groups in the United States. The LBW rate for Blacks was more than twice that of Whites, 13.1 percent compared with 6.6 percent for 1999.<sup>1</sup> This race differential in LBW is associated with a much higher incidence of preterm births among Blacks.

Identified risk factors for LBW births include: younger and older maternal ages; high parity; poor reproductive history; unmarried; low income; low level of education; late entry into prenatal care; poor nutrition; low pregnancy weight gain; multiple gestation; and use of alcohol, tobacco, and other substances.<sup>24</sup> VLBW is strongly associated with short gestation (prematurity) and fetal growth retardation.

### Data Sources and Definitions

Data from the CDHS Birth Statistical Master Files were used to analyze trends in low and very low birth weight among California resident births. LBW

is defined as a live birth weighing less than 2,500 grams (5 pounds, 8 ounces), and VLBW is defined as a live birth weighing less than 1,500 grams (3 pounds, 5 ounces).<sup>10</sup>

### National Risk Reduction Objectives

Objective 14.5 seeks to reduce the incidence of LBW to no more than 5.0 percent of all live births, and of VLBW to no more than 1.0 percent, by the year 2000. Subobjective 14.5a seeks to reduce the LBW rate among Blacks to no more than 9.0 percent, and their VLBW rate to no more than 2.0 percent by the year 2000 (14.5b).

### Progress for Low Birth Weight Trends in California

California's LBW rate has remained relatively stable over the period 1980-1999, but trended slightly upward significantly, and have not met the national objective of 5.0 percent (Table 14-F-1).<sup>12</sup>

### Black Low Birth Weight

The incidence of LBW among Blacks is consistently and significantly higher than those for other race/ethnic groups (Table 14-F-1). The LBW rate trend for Blacks since 1980 has not been statistically significant up or down, beginning at 12.1 percent, hitting a high of 13.8 percent in 1989 before trending downward to a low of 11.7 in 1998 and increasing slightly in 1999 to 11.8 percent. The year 2000 objective for Black LBW will not be met.<sup>12</sup>

## Very Low Birth Weight Trends in California

The VLBW rate from 1980 through 1996 showed an increase. Regression analysis revealed a statistically significant upward trend in VLBW, which indicates that the objective of 1.0 percent will not be met. The addition of data from 1997 (1.1), 1998 (1.2), and 1999 (1.1) are all slightly above the objective (Table 14-F-2).<sup>12</sup>

## Black Very Low Birth Weight

The VLBW rate among Blacks was two to three times higher than rates for other race/ethnic groups examined, and there was a statistically significant increase between 1980 and 1999. Black VLBW rates indicate that this subobjective will not be achieved (Table 14-F-2).<sup>12</sup>

Table 14-F-1  
LOW BIRTH WEIGHT AS A PERCENT OF LIVE BIRTHS BY RACE/ETHNICITY OF MOTHER  
California 1997-1999

YEAR	Total		Asian/PI		Black		Hispanic		Native American		White	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1997	32,232	6.1	3,846	6.8	4,356	12.1	13,879	5.6	146	5.7	9,770	5.5
1998	32,438	6.2	3,858	6.9	4,119	11.7	13,887	5.6	150	5.8	10,132	5.7
1999	31,686	6.1	3,906	6.8	4,045	11.8	13,805	5.5	150	6.0	9,548	5.5
Year 2000 Objective		5.0				9.0						

Table 14-F-2  
VERY LOW BIRTH WEIGHT AS A PERCENT OF LIVE BIRTHS BY RACE/ETHNICITY OF MOTHER  
California 1997-1999

YEAR	Total		Asian/PI		Black		Hispanic		Native American		White	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1997	5,869	1.1	563	1.0	998	2.8	2,526	1.0	17	0.7	1,714	1.0
1998	6,013	1.2	601	1.1	939	2.7	2,601	1.0	35	1.4	1,774	1.0
1999	5,950	1.1	599	1.1	1,018	3.0	2,569	1.0	25	1.0	1,675	1.0
Year 2000 Objective		1.0				2.0						



## CESAREAN SECTION BIRTHS

### Background

The rate of cesarean section deliveries has generally increased nationally each year since 1970, although declines between 1991 through 1996 were experienced before the rates resumed an increasing trend to the year 2000.<sup>25,26</sup> Cesarean section deliveries are viewed by some practitioners and patients as a necessary medical intervention determined by indicators such as abnormally progressing labor, fetal distress, and breech presentation. Others view cesarean sections as an overused medical procedure determined by previous cesarean delivery, physician preferences, and financial incentives.<sup>27</sup>

Because there is little evidence to support the hypothesis that maternal and child health status has improved as a result of cesarean sections, and because they have been associated with an increased risk of maternal and infant mortality and morbidity, increased length of stay, and increased hospitalization costs, a national risk reduction objective for the year 2000 was established to monitor cesarean section rates.<sup>2</sup>

### Data Sources and Definitions

California birth certificate data from the Birth Statistical Master Files were used for this analysis, in contrast to hospital discharge data used in *Healthy People 2000*. CDHS data quality studies have shown that reporting of delivery method on the birth certificate has a high level of agreement with hospital records, although some disparities exist in the classification of elective and non elective cesarean sections.<sup>28,29</sup>

Reporting of method of delivery on the California birth certificate was modified in 1989 to enable monitoring of repeat cesarean sections among women who had previous cesarean section and vaginal births consistent with the National Center for Health Statistics revisions to the United States Standard Certificate of Live Birth.<sup>30</sup> With the implementation in 1989 of revised standard definitions and coding procedures, and the addition of information on primary and repeat cesarean section procedures and vaginal births after cesarean, birth certificate data will become more useful in monitoring trends in methods of delivery and birth outcomes.

Numerator data used in the computation of percentages exclude cases for which the method of delivery was missing on the birth certificate. Denominator data include all live births reported among California residents.

### National Risk Reduction Objectives

Objective 14.8 seeks to reduce the cesarean delivery rate to no more than 15.0 percent.

Objective 14.8a seeks to reduce the percentage of primary (first time) cesarean deliveries to no more than 12.0 percent by the year 2000.

Objective 14.8b seeks to reduce the percentage of repeat cesarean deliveries among women who had a previous cesarean delivery to no more than 65.0 percent.

## Progress on Cesarean Section Trends in California

During 1999, a total of 117,568 cesarean births were reported out of a total of 518,072 live births, resulting in a cesarean section rate of 22.7 percent, compared with 17.1 percent in 1980 (Table 14-G-1).<sup>12</sup> This is a statistically significant increase. California did not achieve the national objective of 15.0 by 1999.

### Primary Cesarean Sections

California data for 1999 indicate that 60.9 percent of all cesarean section births were primary cesarean sections. Regression analysis indicates that there was not a statistically significant increase in the primary cesarean section rate from 1980-1999.<sup>12</sup> California will not meet the objective of less than 12.0 percent of live births in the year 2000 since the additional data for 1997 (12.8), 1998 (13.2), and 1999 (13.8) are above the objective (Table 14-G-2).

## Repeat Cesarean Sections

During 1989, 84.5 percent of women who had prior cesarean sections had repeat cesarean sections. By 1996, repeat cesarean sections decreased to 77.2 percent but began increasing again to 79.4 in 1997, 81.5 in 1998 and 83.7 in 1999 (Table 14-G-3).<sup>12</sup> California will not meet the objective of 65 percent.

### Variations in Cesarean Births by Race/Ethnicity

National objectives for reductions in cesarean births among special population targets are not specified in *Healthy People 2000*, although California data are available and are included in this report (Tables 14-G-1 to 14-G-3).

Table 14-G-1  
CESAREAN SECTIONS AS A PERCENT OF ALL LIVE BIRTHS  
BY RACE/ETHNICITY OF MOTHER  
California 1997-1999

YEAR	Total		Asian/PI		Black		Hispanic		Native American		White	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1997	109,995	21.0	10,996	19.4	8,387	23.3	50,563	20.3	524	20.3	38,876	21.9
1998	113,114	21.7	11,430	20.6	8,760	24.9	51,797	20.9	572	22.1	39,762	22.5
1999	117,568	22.7	12,443	21.8	8,892	26.0	54,622	21.9	532	21.3	40,371	23.5
Year 2000 Objective		15.0										

Table 14-G-2  
 PRIMARY CESAREAN SECTIONS AS A PERCENT OF ALL LIVE BIRTHS  
 BY RACE/ETHNICITY OF MOTHER  
 California 1997-1999

YEAR	Total		Asian/PI		Black		Hispanic		Native American		White	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1997	67,135	12.8	7,558	13.3	4,986	13.9	29,156	11.7	303	11.7	24,661	13.9
1998	68,560	13.2	7,815	14.1	5,175	14.7	29,450	11.9	313	12.1	25,251	14.3
1999	71,580	13.8	8,649	15.2	5,291	15.5	30,896	12.4	334	13.4	25,918	15.1
Year 2000 Objective		12.0										

Table 14-G-3  
 REPEAT CESAREAN SECTIONS AS A PERCENT OF ALL PRIOR CESAREAN BIRTHS  
 BY RACE/ETHNICITY OF MOTHER  
 California 1997-1999

YEAR	Total		Asian/PI		Black		Hispanic		Native American		White	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1997	42,860	79.4	3,438	75.1	3,401	82.0	21,407	80.5	221	76.5	14,215	78.3
1998	44,554	81.5	3,615	79.1	3,585	83.8	22,347	82.5	259	80.9	14,511	80.1
1999	45,988	83.7	3,794	79.8	3,601	85.8	23,726	84.5	198	85.0	14,453	83.1
Year 2000 Objective		65.0										

## PRENATAL CARE

### Background

Early (first trimester) prenatal care allows for detecting and treating pregnancy-related problems and is critical to improving pregnancy outcomes.<sup>31</sup> Research has shown that maternal factors such as low income, low educational level, young age, substance abuse, and unintended pregnancies are consistently and positively correlated with a lack of early and adequate prenatal care.<sup>32,33</sup> Availability of obstetrical services and a woman's eligibility for insurance coverage during pregnancy have also been found to influence early access to prenatal care.

The proportion of births in the United States to mothers who began prenatal care during the first trimester rose to 83.2 percent in 1999, a ten percent increase since 1989.<sup>12</sup> National differences in prenatal care between White and Black mothers were narrower in 1999 than in previous years.<sup>1</sup> White mothers had the highest percent of early prenatal care (85.1) and Black mothers had the lowest percent of early care (74.0).

### Data Sources and Definitions

Data on month prenatal care began were extracted from the CDHS Birth Statistical Master Files, and were tabulated by race/ethnicity of the mother. No uniform standard of what constitutes "prenatal care" was used other than month prenatal care began as reported on the birth certificate. "Month prenatal care began" is described as the month of pregnancy in

which a woman first visited a physician or other health care provider for medical supervision of her pregnancy.<sup>34</sup> "Early prenatal care" is defined as care received during the first three months of pregnancy (first trimester).

Numerator data consisted of the number of California resident women who were reported to have received care in their first trimester. Denominator data consisted of the number of all live births, excluding those for which the month of prenatal care was unknown or missing on the birth certificate.

### National Services and Protection Objectives

Objective 14.11 seeks to increase to at least 90 percent the proportion of all pregnant women who receive prenatal care in the first trimester of pregnancy. Special population target objectives have been established to increase the proportion of Black (14.11a), American Indians/Alaska Natives (14.11b), and Hispanic (14.11c) women receiving first trimester care to 90 percent by the year 2000.

### Progress for Prenatal Care Trends in California

The percentage of pregnant women receiving first trimester prenatal care in California between 1980 and 1999 indicates a significant upward trend. California will not achieve the objective of 90 percent of all pregnant women obtaining prenatal care in the first trimester, although the percentage is progressively closer to the objective at

81.8 for 1997, 82.4 for 1998, and 83.6 for 1999 (Table 14-H).<sup>12</sup>

### Black Prenatal Care

Black expectant mothers also have a significantly increasing first trimester prenatal care percentage, but they also will not achieve the year 2000 objective of 90 percent. Blacks had a first trimester percentage of 78.6 in 1997, 79.5 in 1998, and 81.1 in 1999 (Table 14-H).<sup>12</sup>

### Hispanic Prenatal Care

Hispanic female expectant mothers also have a significantly increasing first trimester prenatal care percentage, but they also will not achieve the year 2000 objective of 90 percent. Hispanics had a first trimester percentage of 77.3 in 1997, 78.1 in 1998, and 79.7 in 1999 (Table 14-H).<sup>12</sup>

### Native American Prenatal Care

Native American expectant mothers do not have a significant trend in early prenatal care since 1980. This group did not achieve the 90 percent objective set for them. Their percentage was 70.9 for 1997, 72.1 for 1998, and 72.5 for 1999 (Table 14-H).<sup>12</sup>

Table 14-H  
FIRST TRIMESTER PRENATAL CARE  
BY RACE/ETHNICITY OF MOTHER  
California 1997-1999

YEAR	Total		Asian/PI		Black		Hispanic		Native American		White	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1997	423,640	81.8	47,140	84.2	27,834	78.6	189,830	77.3	1,801	70.9	154,741	87.9
1998	422,866	82.4	46,447	84.9	27,398	79.5	190,523	78.1	1,834	72.1	153,765	88.2
1999	426,020	83.6	48,189	85.7	27,030	81.1	195,020	79.7	1,782	72.5	151,573	89.2
Year 2000 Objective		90.0				90.0		90.0		90.0		

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# Heart Disease And Stroke

## Contents

**15.1 Coronary Heart Disease Deaths**

**15.2 Stroke Deaths**

## HEART DISEASE AND STROKE

### Background

Despite varied prevention and intervention programs, the major cardiovascular diseases claim over 700,000 lives in the United States each year. More than 2,600 Americans die each day of cardiovascular diseases.<sup>1,2</sup> Although age-adjusted death rates for diseases of the heart and for cerebrovascular diseases have declined dramatically, they are the first and third leading causes of death respectively, and kill nearly as many Americans as all other diseases combined. About 59 million Americans (almost one-fourth of the nation's population) live with some form of the disease.

The term "cardiovascular disease" refers to a variety of diseases and conditions affecting the heart and blood vessels, principally high blood pressure, heart disease, and stroke. The major modifiable risk factors for cardiovascular disease are high blood pressure, high blood cholesterol, cigarette smoking, obesity, and physical inactivity.<sup>3</sup>

Coronary heart disease (CHD) is the specific group of ICD-9 codes Healthy People uses to track heart disease and is the predominant cardiovascular event. The lifetime risk of developing CHD after 40 years of age is 49 percent for men and 32 percent for women. CHD rates in women after menopause are two to three times those of women the same age before menopause. Twenty-five percent of men and 38 percent of women will die within one year after having an initial recognized heart attack.

About two-thirds of heart attack patients do not make a complete recovery, but 88 percent of those under age 65 are able to return to their usual work. CHD is the leading cause of premature, permanent disability in the United States labor force, accounting for 19 percent of disability allowances by the Social Security Administration. In 1997, \$10.8 billion was paid to Medicare beneficiaries for CHD.<sup>4</sup>

Stroke is a leading cause of long-term disability in the United States. Each year about 600,000 people suffer a stroke.<sup>2</sup> Often, long-term neurological damage from strokes can be mitigated by rapid diagnosis and treatment.

A consideration of deaths alone severely understates the enormous economic burden of cardiovascular disease on the U. S. health care system. This burden continues to grow as the population ages. The cost of cardiovascular disease in the United States in 2000 is estimated to be \$326.6 billion. This figure includes health expenditures and lost productivity resulting from illness and death.<sup>2</sup>

Death rates are disproportionately higher among Blacks than Whites for both CHD and stroke. Reliable national data on other race/ethnic groups (Hispanics, Asian/Pacific Islanders, Native Americans) is limited, but diseases of the heart and cerebrovascular diseases were major contributors to all-cause mortality and premature mortality for each race-sex reported in national death statistics.

## CORONARY HEART DISEASE DEATHS

### Data Sources and Definitions

Mortality data for California residents were extracted from the CDHS Death Statistical Master Files, and tabulated by age, race/ethnicity, and sex. Population data used in the computation of age-adjusted mortality rates were provided by California Department of Finance, Demographic Research Unit.

CHD is defined using ICD-9 codes 402, 410-414, and 429.2, and stroke is defined using ICD-9 codes 430-438, consistent with *Healthy People 2000*.<sup>5</sup>

### National Health Status Objectives

Objective 15.1 was established to reduce the CHD age-adjusted death rate to no more than 100.0 per 100,000 people. Subobjective 15.1a seeks to reduce CHD deaths among Blacks to no more than 115.0 per 100,000 by the year 2000.

Objective 15.2 seeks to reduce stroke deaths to no more than 20.0 per

100,000 people, and special population target objective 15.2a seeks to reduce stroke deaths among Blacks to no more than 27.0 per 100,000 by the year 2000.

### Progress on CHD Mortality Trends in California

The age-adjusted CHD death rates significantly declined from 1980 to 1998.<sup>6</sup> California has met the objective of 100.0 CHD deaths per 100,000 since 1996. Rates for 1997 (93.5) and 1998 (91.9) indicate further reductions in CHD death rates (Table 15-A).

### Blacks

Age-adjusted CHD death rates are consistently and significantly higher among Blacks compared with other race/ethnic groups, but have declined significantly since 1980.<sup>6</sup> Blacks in California will not meet their target of 115.0 CHD deaths per 100,000. Data for 1997 (154.4) and 1998 (156.5) show only slight improvement (Table 15-A).

Table 15-A  
CORONARY HEART DISEASE DEATHS AND AGE-ADJUSTED DEATH RATES PER 100,000 POPULATION  
California 1997-1998

YEAR	Total		Asian/Other		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	57,733	93.5	3,157	58.3	4,319	154.4	5,234	66.0	45,013	98.7
1998	58,198	91.9	3,340	57.8	4,449	156.5	5,426	65.9	44,964	96.8
Year 2000 Objective		100.0				115.0				

## STROKE DEATHS

### Progress on Stroke Mortality Trends in California

Stroke death rates for the total population in California have declined significantly over the past two decades, cutting the age-adjusted death rate nearly in half since 1980.<sup>6</sup> Although approaching the objective of 20.0 per 100,000 people, California will not meet this objective by the year 2000. The rates from 1997 (25.5) and 1998 (24.6) indicate continued progress (Table 15-B).

### Progress on Black Stroke Mortality Trends in California

The Black age-adjusted death rates significantly declined for this group also from 1980 to 1998, but are consistently and significantly higher compared with other race/ethnic groups.<sup>6</sup> Blacks in California did not meet their target of 27.0 stroke deaths per 100,000. Data for 1997 (43.2) and 1998 (40.2) also show continued improvement toward this indicator (Table 15-B).

Table 15-B  
STROKE DEATHS AND AGE-ADJUSTED DEATH RATES PER 100,000 POPULATION  
California 1997-1998

YEAR	Total		Asian/Other		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	16,649	25.5	1,366	25.8	1,240	43.2	1,646	21.0	12,393	24.4
1998	16,385	24.6	1,364	24.2	1,178	40.2	1,685	20.1	12,156	23.7
Year 2000 Objective		20.0				27.0				

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# Cancer

## Contents

- 16.1 All Cancer Deaths**
- 16.2 Lung Cancer Deaths**
- 16.3 Breast Cancer Deaths**
- 16.4 Cervical Cancer Deaths**
- 16.5 Colorectal Cancer Deaths**

## CANCER

### Background

Cancer is not a single disease entity, but a group of over 100 different diseases characterized by the uncontrollable growth and spread of abnormal cells at various sites in the body. Cancer ranked as the second leading cause of death in the nation during 1998, accounting for 541,532 deaths.<sup>1</sup> The National Cancer Institute estimates overall annual costs for cancer at \$107 billion.<sup>2</sup>

Age-adjusted death rates for cancer nationally have declined overall since 1990 to 200.3 per 100,000 in 1998.<sup>1</sup> Males had approximately ten percent more cancer deaths than females. Blacks had higher incidence rates than Whites (up to 50 percent) and had a 30 percent higher death rate. Hispanics and Asians had the lowest cancer incidence rates of all race/ethnic groups. Higher cancer incidence and death rates are also associated with persons below the poverty level or who had limited access to health care.<sup>2</sup>

For persons diagnosed with cancer in 1998, 60 percent would be expected to be alive in 2003.<sup>2</sup> This five year relative survival rate is not the same for all persons; lifestyle, environment, and genetic factors can affect the risk of developing and surviving cancer. Racial differences in cancer survival rates have been partially explained by various socioeconomic factors that may affect access to health care and the use of state-of-the-art diagnostic tests and medical treatments.<sup>2</sup>

More people die from lung cancer than any other type. Approximately

90 percent of the lung cancer cases among men and 80 percent of cases among women have been attributed to cigarette smoking.<sup>3</sup> Lung cancer surpassed breast cancer as the leading cause of cancer death among women, a national trend that is mirrored in California data.<sup>4</sup> Since there is no effective treatment for lung cancer, 86 percent of its victims are expected to die within five years of diagnosis.<sup>2</sup>

Colorectal cancer is the third leading cause of cancer death in the United States. The five year relative survival rate for persons diagnosed with cancers of the colon and the rectum is about 66.1 percent when cancer has spread and 91.4 percent when caught at a local stage.<sup>2</sup>

During the 1990s, an estimated 2,000,000 women in the United States will have been diagnosed with breast or cervical cancers and 500,000 will have died as a result of these diseases.<sup>5</sup> Although National Cancer Institute data show that incidence and mortality rates for these cancers increase with age, other data show that screening mammography is underutilized and Pap smear screening decreases with age.<sup>5,6</sup>

Prostate cancer is the second leading cause of cancer death behind lung cancer for males and is a leading cause of death for males over 65 years of age. *Healthy People 2000* did not establish a target objective on prostate cancer death rates, but did establish an objective for periodic clinical exams for persons over 50 years of age.<sup>7</sup>

Reducing cancer mortality and morbidity through early detection, prevention, and

treatment strategies elaborated in *Healthy People 2000* holds great potential. These include prevention efforts to reduce cigarette smoking and alcohol consumption, to effect dietary changes that limit fat intake, and to reduce environmental exposures to carcinogens. Scientific evidence suggests about one-third of the cancer deaths nationally are due to nutritional factors, including obesity. Cancer risk can be reduced by a diet rich in plant foods (fruits, vegetables, grains, and beans) and by limiting fat intake, including meat and dairy products.<sup>2</sup> Early detection efforts such as magnetic resonance imaging, computerized tomography scanning, screening mammography, Pap tests, fecal occult blood testing, and other clinical examinations, with treatment options involving various combinations of chemotherapeutic drugs, surgery, and radiation will be crucial to cancer prevention and treatment.<sup>7</sup>

### **Data Sources and Definitions**

Mortality data for California residents were extracted from the CDHS Death Statistical Master Files for the years 1997 through 1998. Population data used in the computation of age-adjusted death rates were provided by the Department of Finance, Demographic Research Unit.

Deaths attributed to malignant neoplasms (cancers, all sites) are defined using ICD-9 codes 140-208, consistent with *Healthy People 2000*.<sup>8</sup> Site-specific cancers are defined as follows: lung cancer by codes 162.2-162.9; breast cancer by code 174; cancer of the uterine cervix by code 180; and colorectal cancer by codes 153.0-154.3, 154.8, and 159.0.

Previous reports prepared by the CDHS Cancer Surveillance Section also used mortality data from the Death Statistical Master Files, but are not directly comparable to the data developed for monitoring progress toward achieving *Healthy People 2000* objectives because cancer sites were grouped according to the National Cancer Institute's Surveillance, Epidemiology, and End Result Program conventions and age-adjusted rates were developed using the 1970 United States population standard.<sup>9</sup>

### **National Health Status Objectives**

Objective 16.1 seeks to reverse the rise in cancer deaths to achieve an age-adjusted rate of no more than 130 per 100,000 population by the year 2000. A special population objective was established for Blacks (16.1a) at 175 cancer deaths per 100,000 population.

Objective 16.2 targets slowing the rise in lung cancer deaths to achieve an age-adjusted rate of no more than 42 lung cancer deaths per 100,000 population by the year 2000. Special population targets have been established for females to a rate of no more than 27 lung cancer deaths per 100,000 (16.2a), and Black males to a rate of no more than 91 lung cancer deaths per 100,000 population (16.2b).

Objective 16.3 was established to reduce female breast cancer deaths to an age-adjusted rate of no more than 20.6 female breast cancer deaths per 100,000 females. A special population age-adjusted target rate for Black females was established at no more than 25.0 breast cancer deaths per 100,000 females (16.3a).



Objective 16.4 seeks to reduce deaths from cancer of the uterine cervix to an age-adjusted rate of no more than 1.3 per 100,000 women. Special population targets were established for Blacks (16.4a) at no more than 3.0 cervical cancer deaths per 100,000 and for Hispanics (16.4b) at no more than 2.0 cervical cancer deaths per 100,000.

Objective 16.5 targets reductions in colorectal cancer deaths to no more than an age-adjusted rate of 13.2 per 100,000 population by the year 2000. A special population target for Blacks was established (16.5a) at no more than 16.5 colorectal cancer deaths per 100,000.

## CANCER DEATHS

### Progress on Cancer Mortality Trends in California

The age-adjusted cancer death rate among California residents has significantly declined from 1980 to 1998 (Table 16-A).<sup>10</sup> Age-adjusted cancer death rates for all races and both sexes combined have been below the national objective at 130.0 cancer deaths per 100,000 population since 1985. The rates for 1997 (111.2) and 1998 (107.4) show continued progress for this indicator.

### Blacks

Examined by race/ethnicity, California data show that age-adjusted cancer death rates among Blacks are consistently and significantly higher than other groups (Table 16-A). Blacks have experienced a significant decline in cancer death rates also. California has met the total cancer objective of 175.0 cancer deaths per 100,000 for Blacks since 1992.<sup>8</sup> The rates for 1997 (158.6) and 1998 (150.3) also show continued progress.

Table 16-A  
CANCER DEATHS AND AGE-ADJUSTED DEATH RATES PER 100,000 POPULATION  
BY RACE/ETHNICITY  
California 1997-1998

YEAR	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	No.	Rate
1997	51,818	111.2	3,578	79.9	3,904	158.6	5,191	73.0	39,138	120.2
1998	51,186	107.4	3,732	79.1	3,783	150.3	5,293	71.5	38,373	116.4
Year 2000 Objective		130.0				175.0				

## LUNG CANCER DEATHS

### Lung Cancer Mortality Trends in California

Lung cancer was the leading cause of cancer death among California residents, accounting for 13,498 deaths during 1998, representing 26 percent of all cancer deaths (Table 16-B). Age-adjusted lung cancer death rates for all races and both sexes from 1980 showed a significant downward trend. California has met the objective of 42.0 lung cancer deaths per 100,000 population in every prior year beginning in 1980.<sup>10</sup> Rates for 1997 (30.2) and 1998 (29.0) show further progress for this indicator (Table 16-B).

#### Black Males

Blacks as a group had the highest age-adjusted death rates from lung cancer. Black males in particular had about twice the rates of other groups over the last two decades, thus a Healthy People objective of no more than 91.0 lung cancer deaths per 100,000 population was established.

The trend in lung cancer deaths has been significantly declining for Black males for the last 20 years. The objective for this special population has been met also every year since 1980 albeit at higher rates than all other race/ethnic groups.<sup>8</sup> The rates for 1997 (66.4) and 1998 (59.6) show further progress for this group.

#### Females

The special population of females had a significantly increasing age-adjusted death rate for lung cancer since 1980, that peaked in 1991 (26.6), slightly below the objective of no more than 27.0 lung cancer deaths per 100,000 California females. The additional two years of data since the last report show a continuing decline in rates since 1991. The rate for 1997 was 24.3 and the rate for 1998 was 23.3.

Table 16-B  
LUNG CANCER DEATHS AND AGE-ADJUSTED DEATH RATES PER 100,000 POPULATION  
BY RACE/ETHNICITY  
California 1997-1998

YEAR	Total		Asian/Other		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	13,754	30.2	808	18.0	1,088	46.3	849	12.4	11,007	34.7
1998	13,498	29.0	826	17.3	1,018	42.1	832	11.5	10,819	33.8
Year 2000 Objective		42.0								

## BREAST CANCER DEATHS

### Breast Cancer Mortality Trends in California

Breast cancer is the second leading cause of cancer death among California women, following lung cancer. Age-adjusted death rates for female breast cancer (all race/ethnic groups combined) showed a statistically significant downward trend since 1980.<sup>8</sup> California has met the objective of no more than 20.6 female breast cancer deaths per 100,000 females every year since 1980. The rates for 1997 (18.0) and 1998 (17.5) show continued progress for this indicator (Table 16-C).

### Black Females

Black women had consistently higher breast cancer death rates than any other race/ethnic group in California. No statistically significant trends in their rates were found since 1980. However, the Black female breast cancer rate for 1998 was equal to the objective of no more than 25.0 breast cancer deaths per 100,000 population (Table 16-C).

Table 16-C  
FEMALE BREAST CANCER DEATHS AND AGE-ADJUSTED DEATH RATES  
PER 100,000 POPULATION BY RACE/ETHNICITY  
California 1997-1998

YEAR	Total		Asian/Other		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	4,090	18.0	235	10.6	349	26.5	429	11.6	3,077	19.8
1998	4,095	17.5	266	11.6	337	25.0	436	11.3	3,056	19.2
Year 2000 Objective		20.6				25.0				

## CERVICAL CANCER DEATHS

### Cervical Cancer Death Trends in California

Cancer of the uterine cervix claimed the lives of 452 California women during 1998. Since 1980 there was a statistically significant decline in the age-adjusted cervical cancer death rates for all race/ethnic groups combined, but the objective of no more than 1.3 cervical cancer deaths per 100,000 population not achieved.<sup>8</sup> The rate for 1997 (2.4) and 1998 (2.2) indicate a continuation of previous years levels (Table 16-D).

### Black Females

Black females had significantly declining age-adjusted death rates for uterine cervix cancer. With the addition of 1997 (4.3) and 1998 (3.2) data, the objective will not be met for this group (Table 16-D).

### Hispanic Females

Hispanic females did not have a statistically significant trend up or down from 1985, although the 1998 rate of 2.5 cervical cancer deaths per 100,000 Hispanic females is the lowest rate achieved for this group thus far, and is closer to the objective of no more than 2.0 cervical cancer deaths per 100,000 but this objective will not be met (Table 16-D).<sup>8</sup>

Table 16-D  
CERVICAL CANCER DEATHS AND AGE-ADJUSTED DEATH RATES  
PER 100,000 POPULATION BY RACE/ETHNICITY  
California 1997-1998

YEAR	Total		Asian/Other		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	480	2.4	48	2.1	56	4.3	124	3.5	252	2.0
1998	452	2.2	62	2.5	41	3.2	100	2.5	249	1.9
Year 2000 Objective		1.3				3.0		2.0		

## COLORECTAL CANCER DEATHS

### Colorectal Cancer Mortality Trends in California

Deaths due to colorectal cancer account for approximately ten percent of all cancer deaths among California residents. Age-adjusted colorectal cancer death rates for the total California population significantly declined from a high of 14.7 per 100,000 in 1980 to a low of 9.8 per 100,000 in 1998 (Table 16-E). California has met the objective of no more than 13.2 colorectal cancer deaths per 100,000 since 1986.<sup>8</sup>

### Blacks

Blacks have the highest colorectal cancer rates of any group and do not have a significant trend up or down. This special population will achieve the year 2000 objective set for this group of no more than 16.5 colorectal cancer deaths per 100,000 population. The rate for 1997 was a low of 15.7 and 1998 went up slightly to 16.3 colorectal cancer deaths per 100,000.

Table 16-E  
COLORECTAL CANCER DEATHS AND AGE-ADJUSTED DEATH RATES  
PER 100,000 POPULATION BY RACE/ETHNICITY  
California 1997-1998

YEAR	Total		Asian/Other		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	5,152	10.2	383	8.1	393	15.7	434	6.1	3,940	10.9
1998	5,052	9.8	409	8.5	424	16.3	460	6.3	3,759	10.3
Year 2000 Objective		13.2				16.5				

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# Diabetes

## Contents

### 17.9 Diabetes-Related Deaths



## DIABETES

### Background

Diabetes is a chronic, metabolic disease characterized by high blood glucose levels caused by a deficiency in insulin production and/or an impairment of insulin action. Diabetes is classified into two main types: type 1, which most often appears in childhood or adolescence, and type 2, which affects 90 percent to 95 percent of people with diabetes and most often appears after age 40. However, type 2 diabetes is now being diagnosed more frequently among children and adolescents. Type 2 diabetes is linked to obesity and physical inactivity—two modifiable risk factors. Improving nutrition and increasing physical activity can delay the progression of diabetes, as can controlling blood glucose levels and improving access to proper medical treatment. Approximately 16 million Americans have been diagnosed with diabetes, and more than 798,000 new cases are identified each year.<sup>1,2</sup> Among persons known to have diabetes who died, diabetes was listed as a cause of death for only about 40 percent and as the underlying (immediate) cause of death for only ten percent.<sup>3</sup>

In 1998, diabetes mellitus was the seventh leading underlying cause of death in the United States, accounting for 64,751 deaths and an age-adjusted death rate of 13.6 per 100,000 population.<sup>4</sup> The annual number of deaths for which diabetes was listed as any cause of mortality (underlying or contributory) was 187,800 in 1995.

In the United States, diabetes is the leading cause of lower-extremity amputation and end-stage renal disease. It is a major cause of

blindness among working adults; a major cause of disability, malformations, premature mortality and congenital perinatal mortality; and an important risk factor for developing many other acute and chronic conditions (e.g., diabetic ketoacidosis, ischemic heart disease, stroke).<sup>5</sup> Cardiovascular disease is two to four times more common among persons with diabetes; the risk of stroke is two to four times higher; 60 percent to 65 percent have high blood pressure; and 60 percent to 70 percent have mild to severe diabetic nerve damage. End-stage renal disease (ERD) is one severe complication of diabetes and Objective 17.10 seeks to reduce the rate of this condition to 1.4 cases per 1,000 diabetics by year 2000. According to the United States Renal Data System, California had 3,613 diabetics initiating end-stage renal disease for an approximate case rate for ERD of 1.8 per 1,000 diabetics in 1996, the most recent year reliable data was available. This is based only on the funding records for the federal ERD payment program that covers about 90 percent of ERD cases.<sup>6</sup>

Diabetes and its complications have their greatest impact on the elderly and on certain racial and ethnic populations. More than 18 percent of adults older than age 65 have diabetes, and American Indians and Alaska Natives are 2.8 times more likely to have diagnosed diabetes than non-Hispanic Whites of similar age. In addition, Blacks are two times more likely than Whites to die of diabetes.<sup>2</sup>

Diabetes and its complications increase the use of health care services and

impose an economic burden on those who suffer from the disease. A conservative estimate of costs attributable to diabetes was set at \$100 billion.<sup>2</sup>

In response to these statistics on the public health impact of diabetes, the federal government has proposed national objectives and plans for reducing the morbidity and mortality caused by this disease.<sup>7</sup>

### Data Sources and Definitions

Deaths due to diabetes mellitus were extracted from the CDHS Death Statistical Master Files for the years 1997 through 1998. These data were tabulated for California residents by age and by race/ethnicity. Mortality rates were calculated by the direct method using the 1940 United States population as the standard, consistent with *Healthy People 2000*. Population denominator data were provided by the California Department of Finance, Demographic Research Unit.

Diabetes-related deaths include those deaths for which diabetes was listed as either an underlying or contributing cause on the death certificates, and are defined using ICD-9 code 250 for the underlying cause and special medical indicator codes 0, 2, 4, 8, and 9 for other than underlying causes of death.<sup>8,9</sup>

### National Health Status Objectives

Objective 17.9 seeks to reduce diabetes-related deaths to no more than 34 per 100,000 population by the year 2000. Special population target objectives have been established to reduce diabetes mortality among Blacks to no more than 58 per 100,000 population (Objective 17.9a).

Table 17  
DIABETES-RELATED DEATHS AND AGE-ADJUSTED DEATH RATES PER 100,000 POPULATION  
BY RACE/ETHNICITY  
California 1997-1998

YEAR	Total		Asian/Other		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	22,376	44.0	1,753	35.7	2,388	94.0	4,131	58.6	14,098	37.8
1998	23,390	44.7	1,943	37.2	2,568	97.6	4,386	59.9	14,498	37.9
Year 2000 Objective		34.0				58.0				

## **Progress for Diabetes Mortality Trends in California**

The California Diabetes Control Program estimates there are approximately two million people with diabetes in California out of a total population of 33 million. The number of diabetes-related deaths among Californians showed a statistically significant increase from 1980 to 1996.<sup>10</sup> California will not achieve national Objective 17.9. Rates from 1997 (44.0) and 1998 (44.7) indicate further increases away from the objective of no more than 34.0 diabetes deaths per 100,000 population (Table 17-A). Also, since the prevalence of diabetes is associated with age, the number of persons with diabetes will continue to increase as the population ages. These trends make prevention and intervention efforts a high priority in reducing diabetes-related deaths among Californians.

### **Blacks**

Diabetes-related deaths and death rates among Black Californians have also increased significantly since 1980.<sup>10</sup> California will not achieve special population target Objective 17.9a of no more than 58.0 diabetes deaths per 100,000 Blacks. Rates for 1997 (94.0) and 1998 (97.6) indicate a continuation of the increasing trend of higher Black diabetes death rates (Table 17).

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# HIV Infection

## Contents

**18.1 Incidence of Diagnosed AIDS Cases**

**18.2 Prevalence of HIV Infection**

## HIV INFECTION

### Background

On June 5, 1981, the first cases of a disease now known as acquired immunodeficiency syndrome (AIDS) were reported by California and the CDC.<sup>1</sup> The human immunodeficiency virus (HIV) was first recognized as the etiologic agent causing AIDS in 1984, and has emerged as one of the leading causes of death in the United States.<sup>2,3</sup> There has been approximately 450,000 cumulative total deaths due to HIV infection and 1,000,000 HIV infections nationally.<sup>4</sup>

Male-to-male sex has been the most common mode of exposure among persons reported with AIDS (46 percent), followed by injection drug use (25 percent), and heterosexual contact (11 percent).<sup>4</sup> AIDS cases and deaths from AIDS rose from 1981 and peaked in the early '90s when new antiviral treatments became available allowing for a rapid decrease in diagnosed AIDS cases and deaths.<sup>4</sup> The long-term prospects of this therapy remain unknown.<sup>5</sup> With millions of U.S. residents already infected with HIV, and no known cure for AIDS, public health priorities include preventing the spread of HIV infection by modifying personal behavior, testing with counseling for HIV prevention, and improved monitoring of the national blood supply.

In addition to the human costs associated with the AIDS epidemic, there are significant economic costs associated with HIV/AIDS morbidity and mortality. In the United States, annual costs of treating AIDS were projected to climb as high as \$13 billion by 1992,

excluding expenditures for expanded use of antiviral drugs among HIV-infected persons.<sup>6</sup>

The HIV/AIDS epidemic is a serious public health challenge facing California, according to the State Office of AIDS. Los Angeles County has the highest cumulative number of reported AIDS cases in the state (40,739), followed by the counties of San Francisco (23,821) and San Diego (10,162). California's Black and Hispanic populations are being disproportionately affected by the HIV/AIDS epidemic. Since 1997, the majority of California's annually reported AIDS cases have been non-White.<sup>7</sup> For 1998, California deaths from AIDS remained a leading cause of death for males in the 25-54 age group and for females in the 25-44 age group.<sup>8</sup> AIDS deaths in California for 1997 were 1,857 and for 1998 were 1,432, down significantly from a high of 6,737 in 1994.<sup>8</sup>

### Data Sources and Definitions

The most important measure of progress in controlling the AIDS epidemic is the annual incidence of HIV infection. However, this measure would require the same population be tested in a base period and again at a later period to assess change. Because AIDS is a reportable condition throughout the United States, the incidence of AIDS cases is used as a proxy for measuring reductions in the incidence of HIV infection. AIDS incidence is a lagging indicator of HIV incidence, since few people progress to AIDS during the first few years after infection and about 50 percent progress to AIDS by ten years.<sup>9</sup>

## **National Health Status Objectives**

Objective 18.1 seeks to confine the annual incidence of diagnosed AIDS cases in California to no more than 9,000 cases. Special population target objectives have been established to confine the annual incidence of AIDS cases among men having sex with men to no more than 6,500-7,500 cases (Objective 18.1a); among Blacks to no more than 1,200-1,300 cases (Objective 18.1b); and among Hispanics to no more than 1,400-1,500 cases (Objective 18.1c). A female AIDS case objective and an injecting drug user (IDU) case objective added by the midcourse revisions set goals among females to no more than 600-800 cases (Objective 18.1d) and among injecting drug users to no more than 800-900 cases (Objective 18.1e).<sup>10</sup>

Objective 18.2 was established to confine the prevalence of HIV infection to no more than 800 per 100,000 population. Special population target objectives have been set to reduce HIV prevalence among men who have sex with men (Objective 18.2a), IDUs (Objective 18.2b), and women giving birth to live-born infants (Objective 18.2c). Since reliable population denominator data are not available to measure Objectives 18.2a and 18.2b, only data for Objective 18.2c will be reported here. This objective seeks to confine the prevalence of HIV infection to no more than 100 per 100,000 women giving birth to live-born infants.

## **Progress for Trends in Diagnosed AIDS Cases in California**

The number of diagnosed AIDS cases among Californians has increased from 13 cases reported during 1980 to a

high of 12,790 cases reported during 1992, but since has steadily decreased to 3,690 cases in 2000, well below the Healthy People objective set for this indicator at 9,000 cases (Table 18).<sup>11</sup>

### **Blacks**

Among Black Californians, the number of diagnosed AIDS cases increased from 9 in 1981 to more than 2,180 in 1992 before declining to 861 in 2000, also well below the objective set for this group at 1200-1300 cases.<sup>11</sup>

### **Hispanics**

Among the Hispanic population, the incidence of diagnosed AIDS cases showed similar increases from 10 in 1981 to over 2,400 in 1993 before dropping to 1,263 cases in 2000.<sup>11</sup>

### **Men Having Sex with Men**

Men having sex with men accounted for 70.7 percent of all diagnosed AIDS cases in California during the baseline year through 1999. The annual incidence has been below or within the year 2000 target range for each year from 1980-1989, and 1995-2000. The year 2000 objective was set at 6,500-7,500 cases and in the year 2000 this group experienced 2,226 diagnosed AIDS cases, thus meeting the objective set for this group.<sup>11</sup>

## Females

Female AIDS cases have lagged far behind male cases and are much lower overall; however, female cases peaked higher than the objective set for this group at 600-800 cases in the years 1992-1995, but have met the target in 1996 through the year 2000. The number of diagnosed AIDS cases among females in the year 2000 was 526, well below the objective set for this group.<sup>11</sup>

## Injection Drug Users

Among IDUs in California the target has been exceeded since 1991, peaked in 1992 and then declined toward the target from 1993 through the year 2000 (770 IDU cases in that year), meeting the objective set for this group at 800-900 cases.<sup>11</sup>

## HIV Prevalence Among Childbearing Women and Women of Childbearing Age

Since 1988, California has participated in a CDC sponsored study to assess the prevalence of HIV among childbearing women. Of 1,157,009 California women tested for HIV antibodies during the period 1988-1995, 796 were HIV positive. From these survey data it was estimated that the statewide annual prevalence rate was 76.2 per 100,000 in 1988, hit a high of 80.0 in 1991, and declined to 64.7 per 100,000 in 1995, this is well below the national objective set at no more than 100 per 100,000. During the period July 1995 to June 1997, out of 188,988 women of childbearing age tested at state-funded HIV test sites in California, 724 tested positive for HIV.

Table 18  
DIAGNOSED AIDS CASES, BY RACE/ETHNICITY  
California 1997-2000

YEAR	TOTAL	ASIAN/PI	BLACK	HISPANIC	NATIVE AMERICAN	WHITE	UNKNOWN
1997	5,868	152	1,346	1,647	26	2,693	4
1998	4,912	125	1,119	1,444	25	2,194	5
1999	4,399	131	975	1,411	25	1,847	10
2000	3,690	99	861	1,263	20	1,438	9
Year 2000 Objective	9,000		1,200-1,300	1,400-1,500			



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# Sexually Transmitted Diseases

## Contents

- 19.1      Gonorrhea Incidence**
- 19.2      Chlamydia Infections**
- 19.3      Syphilis Incidence**
- 19.4      Congenital Syphilis Incidence**
- 19.5      Pelvic Inflammatory Disease Incidence**

## SEXUALLY TRANSMITTED DISEASES

### Background

More than 25 diseases are spread primarily through sexual activity, and the trends for each disease vary considerably, but together these infections compose a significant public health problem. Fifteen million sexually transmitted disease (STD) cases are reported annually in the United States, with total costs exceeding \$17 billion. Adolescents and young adults, race/ethnic minorities, females, and the poor suffer a disproportionate share of STDs.<sup>1</sup>

Chlamydia is the most commonly reported infectious disease in the United States at an estimated three million cases each year. Increased efforts to screen and treat chlamydia have resulted in an overall decline in this disease.

Gonorrhea is another frequently reported STD in the United States, with an estimated 650,000 new gonococcal infections occurring each year. Some of the highest reported rates of gonorrhea are among females 15-19 years old and males aged 20 through 24. Race/ethnicity-specific data indicate that gonorrhea rates are consistently higher among Blacks.<sup>1</sup>

Morbidity trends for syphilis are measured by the incidence of primary and secondary (P&S) cases, since these stages of the disease are the most infectious and can be reliably diagnosed. If untreated, syphilis can cause cardiovascular and neurological diseases and blindness. Syphilis causes genital ulcers, which increase

the likelihood of sexual HIV transmission two to five times. Since 1990, national syphilis rates have declined 88 percent to 2.5 cases per 100,000 population in 1999.<sup>1</sup>

Race/ethnicity-specific P&S syphilis rates show that the highest rates were among Blacks.<sup>1</sup> The incidence of congenital syphilis in infants closely parallels the incidence of P&S syphilis among females, that has also declined since 1990 to 14.3 cases per 100,000 live births in 1999 nationally.<sup>1</sup>

Approximately one million females in the United States experience an episode of symptomatic pelvic inflammatory disease (PID) each year, and these females are at increased risk of ectopic pregnancy, tubal infertility, chronic pelvic pain, fetal and infant mortality, and congenital defects.<sup>2</sup> Such complications are estimated to occur among 15-20 percent of females with PID and they often require subsequent surgical intervention. Prevention of lower genital tract infection with chlamydia and gonorrhea among both males and females, or early detection and treatment of these infections would lower the incidence of PID and its sequela among reproductive-age females.<sup>2</sup>

California has an estimated 1.2 million new cases of STDs each year, and of these approximately 250,000 occur among teenagers. In 1999, five sexually transmitted diseases (chlamydia, hepatitis B, gonorrhea, AIDS, and syphilis) accounted for more than 77 percent of the reportable infectious diseases in the state.<sup>3</sup>

## Data Sources and Definitions

Incidence data for STDs were provided by the CDHS Division of Communicable Disease Control, STD Control Branch and by the Statistics and Surveillance Section. Hospital discharge data for PID among females aged 15-44 were extracted from the California Office of Statewide Health Planning and Development (OSHPD), Patient Discharge Data Files, and were tabulated by race/ethnicity. PID is defined using ICD-9-CM codes 614-616 as the primary diagnosis code.<sup>4</sup>

Population denominator data used in the computation of rates were extracted from the California Department of Finance, Demographic Research Section. Data on live births were extracted from the CDHS Birth Statistical Master File.

## National Health Status Objectives

Objective 19.1 seeks to reduce gonorrhea to an incidence of no more than 100 cases per 100,000 population by the year 2000. Special population target Objective 19.1a was established to reduce gonorrhea among Blacks to no more than 650 cases per 100,000.

Special population target Objective 19.1b for adolescents aged 15-19 seeks to reduce incidence of gonorrhea to no more than 375 cases per 100,000 population by the year 2000. Special population target Objective 19.1c seeks to reduce gonorrhea incidence to no more than 175 cases per 100,000 population for females aged 15-44 (child-bearing years).

Objective 19.2 was originally based on the surrogate data for nongonococcal urethritis. *Healthy People 2000 Midcourse Review* changed the objective to reduce chlamydia trachomatis infections (directly diagnosed) in young females under 25 years of age to no more than five percent measured at family planning clinics at their initial visit. This data is now becoming available from selected Title X Family Planning Clinics and STD clinics in California. Chlamydia is a reportable disease and statewide incidence for all ages and race/ethnic groups is available from the CDHS Division of Communicable Disease Control, STD Control Branch.

Objective 19.3 seeks to reduce P&S syphilis to an incidence of no more than four cases per 100,000 population, and special population target Objective 19.3a seeks to reduce the incidence among Blacks to no more than 30 per 100,000.

Objective 19.4 targets reductions in congenital syphilis to an incidence of no more than 40 cases per 100,000 live births. Special population Objective 19.4a for Blacks and 19.4b for Hispanics were added in the *Healthy People 2000 Midcourse Revisions*. Objective 19.4a targets reductions in congenital syphilis for Blacks to no more than 175 cases per 100,000 live births and 19.4b targets reductions in congenital syphilis for Hispanics to no more than 50 cases per 100,000 live births.

Objective 19.6 was established to reduce the incidence of pelvic inflammatory disease, as measured by a reduction in hospitalizations for PID, to no more than 100 per 100,000 females aged 15-44. The overall reductions in PID hospitalizations could be due to this condition increasingly being treated on an outpatient basis. Special population target Objective 19.6a seeks to reduce hospitalizations for PID in Black females (15-44) to no more than 150 per 100,000, and special population Objective 19.6b aims to reduce PID to no more than 110 per 100,000 hospitalizations for females aged 15-19.

## **Progress for Sexually Transmitted Disease Trends in California**

### **Gonorrhea**

The number of reported gonorrhea cases in California has been decreasing significantly since 1985 to a low of 18,002 cases in 1997 down from a high of 117,722 cases in 1985 (Table 19-A).<sup>5</sup> California rates fell below the national objective in 1993, and continued to the year 2000 below the objective of no more than 100 cases per 100,000 population. The gonorrhea rate for 1997 was 54.6, for 1998 it was 58.4, for 1999 it was 54.8 and for 2000 the rate was 62.7, indicating a slight rise in rates since 1997. The overall trend, however, from 1980 remains statistically significant downward and the 1997 through 2000 rates are well below the objective.

### **Blacks**

Gonorrhea cases and rates were highest among Blacks (Table 19-A). The number of reported cases among

Blacks also fell significantly from 47,474 cases in 1985 to a low of 5,799 cases in 1998 and incidence rates declined significantly from 2,393.4 to 246.7 per 100,000 in that year.<sup>5</sup> Blacks in California have met their objective of no more than 650.0 cases per 100,000 since 1993. Rates for 1997 through 2000 were 253.3, 246.7, 259.0, and 292.4 respectively, again a slight rise since 1997 but overall still part of a significantly declining trend since 1980.

### **Aged 15-19**

Significantly declining trends for gonorrhea were also determined for the special population target group youth aged 15-19. This group has been below the national objective set for them since 1993 at no more than 375.0 gonorrhea cases per 100,000 population.<sup>5</sup> The rates for this group were 204.6 in 1997, 212.7 in 1998, 196.7 in 1999, and 189.7 in 2000.

### **Females Aged 15-44**

A significantly declining trend for gonorrhea was also determined for the special population target group females aged 15-44. This group has also been below the national objective set for them since 1993 at no more than 175.0 gonorrhea cases per 100,000 population.<sup>5</sup> The rates for this group were 108.4 in 1997, 119.5 in 1998, 113.4 in 1999, and again a slight rise to 120.0 in 2000.

### **Chlamydia**

According to the CDHS STD Control Branch, chlamydia prevalence among family planning female clients under 25 years old at their initial visit was found to

be higher than the year 2000 target of 5 percent with 7.8 percent in 1998, 9.3 percent in 1999, and 7.7 percent in 2000.

### **Primary and Secondary Syphilis**

P&S syphilis cases among Californians declined significantly between 1985 and 2000. Incidence rates significantly declined overall from 16.3 per 100,000 in 1985 to 1.0 in 2000 (Table 19-B).<sup>5</sup> The highest rate was 27.8 per 100,000 in 1987, and the P&S syphilis incidence rates have declined steadily since 1988. Rates fell below the national objective of no more than 4.0 P&S cases per 100,000 during 1993, and California is well below the national objective since that year.

### **Blacks**

Examined by race/ethnicity, P&S syphilis rates among Blacks were consistently and significantly higher than for any other group (Table 19-B). The incidence rates for Blacks declined steadily since 1988 and fell below the national objective in 1993 set at no more than 30.0 P&S syphilis cases per 100,000 Blacks and continued to be below this objective to 2000.<sup>5</sup>

### **Congenital syphilis**

Congenital syphilis cases decreased significantly overall from 1990 to 2000, and case rates declined from 124.4 per 100,000 live births in 1990 to 15.4 in 2000 (Table 19-C).<sup>5</sup> California has met the objective set at no more than 40.0 cases per 100,000 for the total population since 1997 reaching a low of 15.4 cases per 100,000 in the year 2000.

### **Blacks**

The declining trend for Black congenital syphilis cases was also significant and the objective set for this group at no more than 175.0 cases per 100,000 has been met since 1997 reaching a low of 38.5 cases per 100,000 in the year 2000 (Table 19-C).

### **Hispanics**

The declining trend for Hispanic congenital syphilis cases was also significant and the objective set for this group at no more than 50.0 cases per 100,000 has been met since 1996 reaching a low of 18.5 cases per 100,000 in 1999 (Table 19-C).<sup>5</sup>

### **Pelvic Inflammatory Disease**

Hospitalizations for PID among females aged 15-44 declined significantly from 1987 to 1999 (Table 19-D). PID hospitalization rates among California females of childbearing age (15-44) have been below the national objective of no more than 100 per 100,000 since 1993 reaching a low in the year 1999 of 59.6 per 100,000 population.<sup>5</sup>

### **Black Females 15-44**

Although more White women are hospitalized for PID than any other race/ethnic group, Black females have the highest hospitalization rates per 100,000 population aged 15-44. The year 1999 rate of 146.5 per 100,000 Black females aged 15-44 met the objective set for this group at no more than 150.0 per 100,000 but was still three to four times higher than the other race/ethnic groups.

### **Females Aged 15-19**

A statistically significant declining trend among adolescent females for Objective 19.6b is also indicated since 1987, and this objective was met since 1991.<sup>5</sup> The rates for this group are 50.4 for 1997, 43.9 for 1998, and 38.1 for 1999.

Table 19-A  
GONORRHEA INCIDENCE AND RATES PER 100,000 POPULATION  
BY RACE/ETHNICITY  
California 1997-2000

YEAR	Total		Asian/Other		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	18,002	54.6	250	6.6	5,864	253.3	2,572	26.7	2,559	14.9
1998	19,555	58.4	328	8.4	5,799	246.7	2,843	28.6	2,874	16.6
1999	18,656	54.8	343	8.5	6,012	259.0	2,790	26.9	2,487	14.3
2000	21,628	62.4	453	10.8	6,838	292.5	3,253	30.4	3,262	18.7
Year 2000 Objective		100.0		100.0		650.0		100.0		100.0

Table 19-B  
PRIMARY AND SECONDARY SYPHILIS INCIDENCE AND RATES PER 100,000 POPULATION  
BY RACE/ETHNICITY  
California 1997-2000

YEAR	Total		Asian/Other		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	386	1.2	8	0.2	157	6.8	138	1.4	68	0.4
1998	325	1.0	7	0.2	120	5.1	115	1.2	67	0.4
1999	284	0.8	8	0.2	76	3.3	117	1.1	67	0.4
2000	327	0.9	13	0.3	68	3.1	110	1.0	132	0.8
Year 2000 Objective		4.0		4.0		30.0		4.0		4.0



Table 19-C  
 CONGENITAL SYPHILIS INCIDENCE AND RATES PER 100,000 POPULATION  
 BY RACE/ETHNICITY  
 California 1997-2000

YEAR	Total		Asian/Other		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	174	33.2	11	18.6	51	141.8	96	38.6	15	8.3
1998	116	22.3	4	6.9	39	110.8	62	25.0	11	6.1
1999	92	17.8	4	6.7	24	70.3	46	18.5	15	8.6
2000	82	15.4	5	7.7	13	38.5	58	22.5	6	3.4
Year 2000										
Objective		40.0		40.0		175.0		50.0		40.0

Table 19-D  
 PELVIC INFLAMMATORY DISEASE HOSPITALIZATIONS AND RATES  
 AMONG WOMEN AGED 15-44 PER 100,000 POPULATION BY RACE/ETHNICITY  
 California 1997-1999

YEAR	Total		Asian/Other		Black		Hispanic		White	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1997	5,022	69.1	315	34.7	844	153.7	1,342	61.5	2,483	68.5
1998	4,785	65.5	334	36.0	844	156.0	1,244	55.5	2,325	64.7
1999	4,375	59.6	304	31.9	787	146.5	1,187	51.9	2,055	57.6
Year 2000										
Objective		100.0		100.0		150.0		100.0		100.0

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# **Immunization And Infectious Diseases**

## **Contents**

**20.1 Vaccine-Preventable Disease Incidence**

**20.2 Viral Hepatitis Incidence**

**20.4 Tuberculosis Incidence**

## IMMUNIZATION AND INFECTIOUS DISEASES

### Background

Infectious diseases remain a major contributor to morbidity and mortality in the United States, despite reductions and virtual elimination of many of these diseases such as smallpox, polio, and diphtheria.<sup>1</sup> Each of the causative agents of infectious diseases pose a potential threat of recurrence or development of resistance to current treatment, especially among at-risk populations such as infants and young children, the elderly, the poor, and members of minority groups.<sup>2</sup> Newly recognized diseases, such as hepatitis C, and the recent emergence of multidrug-resistant tuberculosis (MDR-TB) pose additional public health burdens that challenge prevention and control efforts.<sup>3</sup>

In California, children are routinely vaccinated for 12 diseases: diphtheria, hepatitis A, hepatitis B, Haemophilus influenza type b, measles, mumps, pertussis, poliomyelitis, rubella, tetanus, pneumococcal disease, and varicella. Provisional data for 1996 indicate that for most of these diseases, the number of reported cases are at the lowest points ever, suggesting near interruption of transmission of these diseases.<sup>4</sup> The CDHS, Immunization Branch has adopted the Healthy People objective seeking a 90 percent immunization rate by age two. Based on a well-designed survey conducted in 2000 (the National Immunization Survey), 77 percent of California two year-olds have received basic immunizations, a dramatic increase from ten years ago, due in large part to a joint federal/state no-cost

vaccination program and managed care outreach programs.<sup>5</sup>

Viral hepatitis continues to be a public health problem in California, accounting for 4,079 reported cases in 2000. Hepatitis A constitutes the largest proportion of reported viral hepatitis cases annually, and is primarily transmitted by person-to-person contact through fecal contamination and oral ingestion.<sup>6</sup> Vaccines are available to help combat this disease. Hepatitis B accounts for the second largest number of reported cases per year.<sup>7</sup> The largest number of persons with hepatitis B acquire the infection as adolescents and adults through sexual contact, household contact, intravenous drug use, occupational exposure, or receipt of certain blood products. Infants who become infected through perinatal transmission have a 90 percent risk of chronic infection. A hepatitis B vaccine is available for childhood immunization programs and for high-risk populations. Hepatitis C affects an estimated 36,000 Americans annually.<sup>8</sup> Groups at high risk of acquiring this disease include intravenous drug users, transfusion recipients, and dialysis patients.

Tuberculosis (TB) is caused by the airborne transmission of mycobacterium tuberculosis, and is the leading cause of death associated with infectious diseases globally.<sup>9</sup> Approximately 16,000 new TB cases occur annually in the United States and approximately 15 million persons have latent TB infection in the United States and are at risk for future disease.<sup>10,11</sup> The number of reported TB cases in the United States

declined from 84,517 in 1953 (53.0 per 100,000 population) to a level of 16,377 reported cases in 2000 (5.8 per 100,000).<sup>11</sup> Increases in the early '90s has been attributed to HIV-associated TB, immigrants and refugees from countries with high TB prevalence, substance abuse, homelessness, poverty, and a deterioration of the public health infrastructure, among other factors.<sup>12-17</sup> Strategic action plans to control outbreaks of MDR-TB and to eliminate TB in the United States by 2010 have been developed.<sup>18</sup> These plans emphasize identifying and treating TB infections among high-risk populations, and monitoring patients for compliance to and completion of prescribed therapeutic regimens. The CDHS Tuberculosis Control Branch is currently developing strategies to address recommendations made by the Institute of Medicine's (IOM) 2000 report, "Ending Neglect: The Elimination of TB in the United States" that will speed the decline of TB toward the 2010 goals. The IOM reports that even if the rate of TB decline is increased, the goal of TB elimination will not be met until 2035.<sup>19</sup> Although much progress has been made toward this goal, major gaps remain. California has the third highest rate of TB cases in the United States. Approximately ten percent of California's population is infected with latent TB bacteria.

### **Data Sources and Definitions**

This report includes the vaccine-preventable diseases (VPDs) diphtheria, tetanus, polio, measles, rubella, congenital rubella syndrome, mumps, and pertussis. Data on the reported number of cases of VPDs were provided by the CDHS Division

of Communicable Disease Control (DCDC), Immunization Branch. Data on hepatitis cases among Californians were provided by the CDHS/DCDC, Surveillance and Statistics Section. TB case data were supplied by the CDHS/DCDC, Tuberculosis Control Branch.

Population denominator data used in the calculation of incidence rates were provided by the California Department of Finance, Demographic Research Unit.

Infectious disease case definitions conform to those recommended by the Council of State and Territorial Epidemiologists and used in the DCDC, National Notifiable Diseases Surveillance System.<sup>20</sup>

### **National Health Status Objectives**

Objective 20.1 seeks to reduce indigenous cases of VPDs by the year 2000 as follows:

- Diphtheria among persons aged 25 and younger to zero
- Tetanus among persons aged 25 and younger to zero
- Polio (wild-type virus) to zero.
- Measles to zero
- Rubella to zero
- Congenital Rubella Syndrome to zero
- Mumps to 500 cases
- Pertussis to 1,000 cases

Objective 20.3 seeks to reduce viral hepatitis by the year 2000 as follows:

- Hepatitis B to 40.0 per 100,000 population
- Hepatitis A to 16.0 per 100,000 population

- Hepatitis C to 13.7 per 100,000 population

Objective 20.4 seeks to reduce TB to an incidence of no more than 3.5 cases per 100,000 population by the year 2000. Special population target objectives have been established to reduce TB: among Asian/Pacific Islanders to 15.0 per 100,000 (Objective 20.4a); among Blacks to 10.0 per 100,000 (Objective 20.4b); among Hispanics to 5.0 per 100,000 (Objective 20.4c) and among American Indians/Alaska Natives to 5.0 per 100,000 (Objective 20.4d).

### **Progress on Vaccine-Preventable Disease Trends in California**

Reported cases of VPDs in California are shown in Table 20-A.

Diphtheria cases in persons under 26 years of age have been at or near the national objective for eradication. California has met the diphtheria objective since 1995.<sup>21</sup>

Tetanus cases in persons under 26 years of age declined from a high of four reported in 1980 to zero cases in 1996, and there were one or more cases every year since then up to the year 2000.<sup>21</sup>

Polio cases were reported among Californians for 9 of the 21 years covering the period 1980-2000, including one case in each year 1998, 1999, and 2000.<sup>21</sup> All but one of these cases were vaccine associated, with the single case due to wild type virus being an imported case.

Measles cases ranged from an epidemic high of 12,586 reported in 1990 to a low of 10 cases reported in 1998.<sup>21</sup>

Similarly, rubella cases have been reported each year among Californians, ranging from a high of 1,413 in 1982 to a low of three in 1998. Congenital rubella syndrome reached a high of 19 reported cases in 1990 to a low of zero cases in 1996.<sup>21</sup>

The number of mumps cases among Californians reported during 2000 (89 cases) represents the smallest number of cases reported during the 21-year period examined.<sup>21</sup>

Pertussis cases have tended to increase over the 1980s and 1990s.<sup>21</sup>

Table 20-A  
CASES OF VACCINE-PREVENTABLE DISEASES  
California 1997-2000

Year	Diphtheria < 26 years	Tetanus < 26 years	Polio	Measles	Rubella	CRS*	Mumps	Pertussis
1997	0	1	0	24	14	3	149	478
1998	0	3	0	10	3	2	110	1,085
1999	0	2	0	17	5	2	95	1,144
2000	0	2	1	19	8	1	89	632
Year 2000 Objective	0	0	0	0	0	0	<500	<1000

\* Congenital Rubella Syndrome

Table 20-B  
TUBERCULOSIS CASES AND RATES PER 100,000 POPULATION  
BY RACE/ETHNICITY  
California 1997-2000

YEAR	Total		Asian/Other		Black		Hispanic		White	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1997	4,059	12.3	1,678	44.3	421	18.3	1,431	14.8	524	3.1
1998	3,855	11.5	1,552	39.6	384	16.8	1,401	14.0	518	3.0
1999	3,608	10.6	1,433	35.3	376	16.2	1,340	12.9	448	2.6
2000	3,297	9.5	1,385	32.9	322	13.8	1,198	11.2	391	2.2
Year 2000 Objective		3.5		15.0		10.0		5.0		3.5

## **Progress on Hepatitis Trends in California**

Hepatitis A cases and incidence rates among Californians have fluctuated since 1980 but have declined steadily since 1996 reaching a low of 8.6 cases per 100,000 population in 2000.<sup>21</sup> California has met the objective set for this virus at 16.0 cases per 100,000 population since 1998.

Overall, hepatitis B incidence rates per 100,000 population declined significantly from 16.3 in 1980 to 3.1 in 2000.<sup>21</sup> California has met the objective set for this virus at 40.0 cases per 100,000 population since 1980.<sup>21</sup>

Hepatitis C data has recently become available and rates since 1997 are well below the objective of 13.7 cases per 100,000 population. Hepatitis C rates for 1997 through 2000 are 1.7, 1.7, .5, and .3 per 100,000 population respectively.

## **Progress on Tuberculosis Trends in California**

Reported TB cases and incidence rates are shown in Table 20-B for the total California population, and for the four major race/ethnic groups for whom population denominator data were available for the period 1997-2000.

The majority of TB cases were consistently reported among the Hispanic and Asian/Other subgroups during 2000. Hispanics constituted 36 percent of the total TB caseloads in California and Asian/Others accounted for 42 percent. TB incidence rates declined among Californians from 18.6 per 100,000 in 1981 to 9.5 per 100,000

in 2000.<sup>21</sup> The year 2000 rate was nearly three times greater than the national objective of 3.5 per 100,000.

### **Asian/Other**

TB incidence rates for Asian/Other declined from 87.4 per 100,000 in 1981 to 32.9 in 2000, representing progress, but still about double the objective set for this group at 15.0 TB cases per 100,000 population.<sup>21</sup>

### **Blacks**

Among Blacks, TB case rates have fluctuated since 1981 and indicate a gradual decreasing trend since 1993 with a low rate of 13.8 per 100,000 population in the year 2000, or slightly above the objective set for this group at 10.0 TB cases per 100,000.<sup>21</sup>

### **Hispanics**

Among Hispanics in California, there was a declining trend in TB incidence rates for two decades. Rates ranged from a high of 31.9 per 100,000 population in 1981 to a low of 11.2 in 2000.<sup>21</sup> The 2000 rate is about double the objective set for this group at 5.0 TB cases per 100,000 population.



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## TECHNICAL NOTES

Mortality and morbidity data used to monitor progress in achieving Health Status Objectives are based on codes taken from the *International Classification of Diseases*, 9<sup>th</sup> Revision (ICD-9), and from the *International Classification of Diseases*, 9<sup>th</sup> Revision, *Clinical Modification* (ICD-9-CM).<sup>1,2</sup> Tables TN-1 and TN-2 show the identifying codes used for each objective covered in this report.

Monitoring progress in achieving many of the Health Status Objectives specified in *Healthy People 2000* involves the calculation and interpretation of population-based rates. Morbidity and mortality rates can vary significantly over time, and can be influenced by demographic factors of the population at risk, such as age, race/ethnicity, gender, and place of residence. Use of “crude” and “standardized” rates to monitor trends involve not only technical choices, but also political and practical considerations, and the issues surrounding statistical analysis of the national year 2000 objectives have been the subject of considerable attention and debate.<sup>3,4</sup> Use of the 1940 United States population standard and the direct method of age-adjusting California’s mortality rates presented in this report are consistent with the methodology employed in *Healthy People 2000*.<sup>5</sup>

For more than 50 years, the National Center for Health Statistics has used the population of the United States in 1940 (the “standard million”) as the standard for age-adjusting mortality statistics. Overall standardized or age-adjusted population-based death rates are essentially weighted averages of a

series of death rates for different age, race/ethnic, and sex groups. One of the main purposes of age-adjustment, or direct standardization, is to “subtract out” changes associated with an aging population so that changes in the force of mortality can be examined.<sup>6,7</sup> A second purpose of standardization is to allow the comparison of rates between different populations and/or points in time by adjusting them to the same base or standard. Age-adjustment standards are not “correct” in some absolute sense. Whatever standard is chosen must be applied consistently to all mortality objectives, since it can make a difference in the magnitude of rates and the significance of trends. The CDHS, Center for Health Statistics was the principal source of numerator data used to monitor many of the health objectives presented in this report.<sup>8-10</sup> Data extracted from birth, fetal death, and infant death records for 1980 through 1997 were obtained from the Birth Cohort Files, developed by CDHS Maternal and Child Health Branch.<sup>11</sup> Hospitalization data used in this report were supplied by the Office of Statewide Health Planning and Development.<sup>12</sup> Other morbidity data were provided by a number of sources, detailed in Table TN-3.

The California Department of Finance (DOF), Demographic Research Unit, was the principal source of population denominator data used in the calculation of mortality and morbidity rates in the report. Data by age, gender, and race/ethnicity were developed by DOF using a methodology described elsewhere.<sup>13-15</sup>

In 1998, DOF released new population estimates for age and race/ethnic breakdowns using a new grouping system. The new revisions can be found in the series Race/Ethnic population with age and sex detail, 1970-2040, December 1998. This *Healthy California 2000 Review* recalculated rates based on the new DOF estimates back to 1990 and regrouped the race/ethnic classifications to match those used in the original *Healthy California 2000* report as closely as possible.

Data were compiled for four major race/ethnic groupings in California for 1980-2000: White, (non-Hispanic), Black, Hispanic, and Asian/Other. For 1980 through 1984, numerator data were not available for Hispanics and for non-Hispanic Whites as mutually exclusive groups from vital statistics death records.<sup>16</sup> Similarly, these data were not available for 1980 and 1981 from the birth records. Persons of unknown race/ethnicity were excluded from race/ethnic rate calculation. Denominator data were not available for American Indians/Alaska Natives from DOF population projection estimates in time to include this category except during the 1990 Census year. Trend data are presented for non-Hispanic Whites, and for Hispanics from 1982 through 1999 for objectives using data from birth records, and from 1980-1999 for objectives using birth data targeting Native Americans and Asian/Pacific Islanders. Problems associated with deriving appropriate numerator and denominator data for race/ethnic groups in California are described elsewhere.<sup>16,17</sup>

Another issue in monitoring National Health Status Objectives is that of

“statistical significance.” A least squares linear regression model was used to perform trend analyses in this report.<sup>18,19</sup> Annualized rates for birth and death events among Californians were calculated for each selected indicator. Standard errors (SE), which define the variability in an estimate, were calculated and used to develop a confidence interval (CI) around the rates and projections to the year 2000. The rate plus or minus 1.96 times the SE provides the range within which the true value would fall 95 percent of the time (the 95 percent CI). If the 95 percent CI of the slope of a linear equation fitted to the data by the method of least squares did not include the value zero, then the null hypothesis was rejected at the .05 level of significance ( $p < .05$ ) and the trend was considered statistically significant. Parameter estimates derived from the regression model were also used to calculate predicted values for each health indicator to the year 2000. Rates calculated from a small number of events (numerator) and/or population (denominator) tend to be unreliable and subject to significant variation from one year to the next. For this report, rates with a relative standard error (coefficient of variation) of greater than 23 percent, which is the standard used by the National Center for Health Statistics, were labeled with an asterisk (\*). Extreme caution should be exercised when analyzing these rates.

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TABLE TN-1

**ICD-9 CODES USED TO EXTRACT MORTALITY DATA**

<b>Objective</b>	<b>Cause of Death</b>	<b>ICD-9 Codes</b>
1.1, 2.1, 3.1, 15.1	Coronary Heart Disease	410-414, 402, 429.2
2.2, 16.1	Cancer (All Site)	140-208
3.2	Lung Cancer	162.2 -162.9
3.3	COPD	490-496
4.2	Cirrhosis	571
4.3	Drug-related	292, 304, 305.2-305.9, E850-E858, E950.0- E950.5, E962.0, E980.0-E980.5
6.1, 7.2	Suicide	E950-E959
7.1	Homicide	E960-E969
7.3	Firearm-Related	E922.0-E922.3, E922.8- E922.9, E955.0-E955.4, E965.0-E965.4, E970, E985.0-E985.4
9.1	Unintentional Injuries	E800-E949
9.3	Motor Vehicle Crashes	E810-E825
9.4	Fall-related	E880-E888
9.5	Drowning	E830, E832, E910
9.6	Residential Fires	E890-E899
13.7	Oral/Pharyngeal Cancer	140-149
14.3	Maternal	630-676
15.2	Stroke	430-438
16.3	Breast Cancer	174
16.4	Cervical Cancer	180
16.5	Colorectal Cancer	153.0-154.3, 154.8, 159.0
17.9	Diabetes	250

**TABLE TN-2****ICD-9 CODES USED TO EXTRACT MORBIDITY DATA**

<b>Objective</b>	<b>Principal Diagnosis</b>	<b>ICD-9-CM Codes</b>
4.4	Drug-Related ER Hospitalizations	292, 304-305.2-305.9, E850-E858, E950.0-E950.5, E962.0-E980.0-E980.5
9.2	Nonfatal Unintentional Injuries	E800-E949
11.1	Asthma-Related Hospitalizations	493
19.6	Pelvic Inflammatory Disease	614-616



**TABLE TN-3**

**DATA SOURCES BY PRIORITY AREA FOR THE  
HEALTHY CALIFORNIA 2000 OBJECTIVES AND SUBOBJECTIVES**

<b>Priority Area</b>	<b>Objective</b>	<b>Data Source</b>
Physical Activity and Fitness	1.5	Division of Chronic Disease and Injury Control, Chronic Disease Control Branch, Behavioral Risk Factor Surveillance System
Nutrition	2.3	Division of Chronic Disease and Injury Control, Chronic Disease Control Branch, Behavioral Risk Factor Surveillance System
	2.6, 2.8	California Dietary Practices Survey
	2.11	Genetic Disease Branch, Newborn Screening Specimen Collection Form
	2.4, 2.10	Primary Care and Family Health Division, Children's Medical Services Branch, Pediatric Nutrition Surveillance System
Tobacco	3.3	Health Information and Strategic Planning Division, Center for Health Statistics, Vital Statistics Section
	3.4	Division of Chronic Disease and Injury Control, Chronic Disease Control Branch, Behavioral Risk Factor Surveillance System
Alcohol and Other Drugs	4.1	Department of Highway Patrol, Statewide Integrated Traffic Records Systems
	4.2-4.3	Health Information and Strategic Planning Division, Center for Health Statistics, Vital Statistics Section
	4.4	Office of Statewide Health and Planning and Development, Health Facility Data Division, Patient Discharge Data Section
Family Planning	5.1	Health Information and Strategic Planning Division, Center for Health Statistics, Vital Statistics Section

**TABLE TN-3**

**DATA SOURCES BY PRIORITY AREA FOR THE  
HEALTHY CALIFORNIA 2000 OBJECTIVES AND SUBOBJECTIVES (Cont'd)**

Violent and Abusive Behavior	7.1-7.3	Health Information and Strategic Planning Division, Center for Health Statistics, Vital Statistics Section
Unintentional Injuries	9.1, 9.3 - 9.6	Health Information and Strategic Planning Division, Center for Health Statistics, Vital Statistics Section. Department of Highway Patrol Statewide Integrated Traffic Record Systems
	9.2	Office of Statewide Health Planning and Development Health Facility Data Division, Patient Discharge Data Section
Occupational Safety and Health	10.1	Department of Industrial Relations, Division of Labor Statistics and Research, Work Injury and Illness Statistics Section
Environmental Health	11.1	Office of Statewide Health Planning and Development, Health Facility Data Division, Patient Discharge Data Section
	11.5	U.S. Environmental Protection Agency, Aerometric Information Reporting Systems
Oral Health	13.7	Health Information and Strategic Planning Division, Center for Health Statistics, Vital Statistics Section
Maternal and Infant Health	14.1-14.3	Health Information and Strategic Planning Division, Center for Health Statistics, Vital Statistics Section
	14.5, 14.8	
	14.11	
		Primary Care and Family Health Division, Maternal and Child Health Branch, Epidemiology and Evaluation Section
Heart Disease and Stroke	15.1, 15.2	Health Information and Strategic Planning Division, Center for Health Statistics, Vital Statistics Section
Cancer	16.1-16.5	Health Information and Strategic Planning Division, Center for Health Statistics, Vital Statistics Section

**TABLE TN-3**

**DATA SOURCES BY PRIORITY AREA FOR THE  
HEALTHY CALIFORNIA 2000 OBJECTIVES AND SUBOBJECTIVES (Cont'd)**

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Diabetes	17.9	Health Information and Strategic Planning Division, Center for Health Statistics, Vital Statistics Section
HIV Infection	18.1, 18.2	AIDS Division Epidemiologic Research and Statistics Branch, AIDS Reporting System
Sexually Transmitted Diseases	19.1-19.4	Division of Communicable Disease Control, STD Control Branch, Statistics and Surveillance Section
Infectious Diseases	20.1, 20.3, 20.4	Division of Communicable Disease Control, Statistics and Surveillance Section

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## **NOTES**



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